

SONY

TRINITRON® COLOR VIDEO MONITOR

BVM-D14H1A CHASSIS NO. SCC-P31A-A

BVM-D14H1E CHASSIS NO. SCC-G10B-A

BVM-D14H1U CHASSIS NO. SCC-G09D-A

BVM-D14H5A CHASSIS NO. SCC-P31B-A

BVM-D14H5E CHASSIS NO. SCC-G10C-A

BVM-D14H5U CHASSIS NO. SCC-G09E-A



Multiformat

MAINTENANCE MANUAL

1st Edition

Serial No. 2000001 and Higher (ALL MODELS)

WARNING

This manual is intended for qualified service personnel only.

To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.

Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegebenen Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.


AVERTISSEMENT

Ce manuel est destiné uniquement aux personnes compétentes en charge de l'entretien. Afin de réduire les risques de décharge électrique, d'incendie ou de blessure n'effectuer que les réparations indiquées dans le mode d'emploi à moins d'être qualifié pour en effectuer d'autres. Pour toute réparation faire appel à une personne compétente uniquement.

WARNING!!

AN INSULATED TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY A  MARK ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION!!

AFIN D'ÉVITER TOUT RISQUE D'ÉLECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ÊTRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!


LES COMPOSANTS IDENTIFIÉS PAR UNE MAPQUE  SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÈCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDiqué DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

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Section 1 Operating Instructions

This section is extracted from
operation manual.

SONY

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BVM-D9H1J/D9H1U/D9H1E/D9H1A

BVM-D9H5J/D9H5U/D9H5E/D9H5A

BVM-D14H1J/D14H1U/D14H1E/D14H1A

BVM-D14H5J/D14H5U/D14H5E/D14H5A



Multiformat

OPERATION MANUAL

Japanese/English

1st Edition

Serial No. 2000001 and Higher

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

AVERTISSEMENT

Afin d'éviter tout risque d'incendie ou d'électrocution, ne pas exposer cet appareil à la pluie ou à l'humidité.

Afin d'éviter tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

WARNING

Um Feuergefahr und die Gefahr eines elektrischen Schlages zu vermeiden, darf das Gerät weder Regen noch Feuchtigkeit ausgesetzt werden.

Um einen elektrischen Schlag zu vermeiden, darf das Gehäuse nicht geöffnet werden. Überlassen Sie Wartungsarbeiten stets nur einem Fachmann.

ADVERTENCIA

Para evitar incendios o el riesgo de electrocución, no exponga la unidad a la lluvia ni a la humedad.

Para evitar descargas eléctricas, no abra la unidad. En caso de avería, solicite los servicios de personal cualificado.

ATTENZIONE

Per evitare incendi o cortocircuiti, l'apparecchio non deve essere esposto alla pioggia o all'umidità.

Per evitare scosse elettriche, non aprite l'apparecchio. Per le riparazioni rivolgetevi solo a personale qualificato.

CAUTION:

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

ATTENTION

Il y a un risque d'explosion si la pile est mal insérée. Remplacer la pile uniquement par une pile de même type ou de type équivalent recommandé par le fabricant. Jeter les piles usées conformément aux instructions du fabricant.

VORSICHT:

Es besteht Explosionsgefahr, wenn die Batterie inkorrekt eingelegt wird. Es darf nur eine identische oder eine vom Hersteller empfohlene Batterie des gleichen Typs eingesetzt werden. Entladene Batterien sind nach den Anweisungen des Herstellers zu entsorgen.

PRECAUCION

Peligro de explosión en caso de haberse instalado incorrectamente la batería. Cambie sólo por una del mismo tipo o especificaciones equivalentes, de entre las recomendadas por el fabricante. Las baterías viejas se deben eliminar siguiendo las instrucciones del fabricante.

ATTENZIONE:

Pericolo di esplosione se la pila viene sostituita scorrettamente. Sostituirla solo con un'altra uguale o di un tipo equivalente consigliato dal fabbricante. Gettare via le pile usate secondo le istruzioni del fabbricante.

Note

The socket-outlet should be installed near the equipment and be easily accessible.

Remarque

La prise doit être près de l'appareil et facile d'accès.

Hinweis

Zur Trennung vom Netz ist der Netzstecker aus der Steckdose zu ziehen, welche sich in der Nähe des Gerätes befinden muß und leicht zugänglich sein soll.

Note

La toma mural debe estar instalada cerca del equipo y debe accederse a ésta con facilidad.

Note

La presa di corrente deve essere situata vicino all'apparecchio e deve essere facilmente accessibile.

For customers in the USA

(BVM-D9H1U/D9H5U, BVM-D14H1U/D14H5U)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

Für Kunden in Deutschland

Entsorgungshinweis: Bitte werfen Sie nur entladene Batterien in die Sammelboxen beim Handel oder den Kommunen. Entladen sind Batterien in der Regel dann, wenn das Gerät abschaltet und signalisiert "Batterie leer" oder nach längerer Gebrauchsdauer der Batterien "nicht mehr einwandfrei funktioniert". Um sicherzugehen, kleben Sie die Batteriepole z.B. mit einem Klebestreifen ab oder geben Sie die Batterien einzeln in einen Plastikbeutel.

Voor de klanten in Nederland

Bij dit produkt zijn batterijen geleverd. Wanneer deze leeg zijn, moet u ze niet weggoien maar inleveren als KCA.

- Dit apparaat bevat een Li-ion batterij voor memory back-up.
- De batterij voor memory back-up is vastgesoldeerd op de MA printplaat BT1.
- Raadpleeg uw leverancier over de verwijdering van de batterij op het moment dat u het apparaat bij einde levensduur afdankt.
- Gooi de batterij niet weg, maar lever hem in als KCA.

För kunderna i Sverige

Apparaten må kun tilkoples jordet stikkontakt

For kunder i Norge

Apparatet må kun tilkoples jordet stikkontakt

For the customers in Europe

(BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/D14H1A/D14H5E/D14H5A)

This product with the CE marking complies with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European standards:

- EN60950: Product Safety
- EN55103-1: Electromagnetic Interference (Emission)
- EN55103-2: Electromagnetic Susceptibility (Immunity)

This product is intended for use in the following Electromagnetic Environment(s): E1 (residential), E2 (commercial and light industrial), E3 (urban outdoors) and E4 (controlled EMC environment, ex. TV studio).

Pour les clients européens

(BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/D14H1A/D14H5E/D14H5A)

Ce produit portant la marque CE est conforme à la fois à la Directive sur la compatibilité électromagnétique (EMC) (89/336/CEE) et à la Directive sur les basses tensions (73/23/CEE) émises par la Commission de la Communauté européenne.

La conformité à ces directives implique la conformité aux normes européennes suivantes:

- EN60950: Sécurité des produits
- EN55103-1: Interférences électromagnétiques (émission)
- EN55103-2: Sensibilité électromagnétique (immunité)

Ce produit est prévu pour être utilisé dans les environnements électromagnétiques suivants: E1 (résidentiel), E2 (commercial et industrie légère), E3 (urbain extérieur) et E4 (environnement EMC contrôlé ex. studio de télévision).

Für Kunden in Europa

(BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/D14H1A/D14H5E/D14H5A)

Dieses Produkt besitzt die CE-Kennzeichnung und erfüllt sowohl die EMV-Direktive (89/336/EEC) als auch die Direktive Niederspannung (73/23/EEC) der EG-Kommission.

Die Erfüllung dieser Direktiven bedeutet Konformität für die folgenden Europäischen Normen:

- EN60950: Produktsicherheit
- EN55103-1: Elektromagnetische Interferenz (Emission)
- EN55103-2: Elektromagnetische Empfindlichkeit (Immunität)

Dieses Produkt ist für den Einsatz unter folgenden elektromagnetischen Bedingungen ausgelegt:

E1 (Wohnbereich), E2 (kommerzieller und in beschränktem Maße industrieller Bereich), E3 (Stadtgebiet im Freien) und E4 (kontrollierter EMV-Bereich, z.B. Fernsehstudio)

ATTENTION - When the product is installed in a rack:

- a) Elevated operating ambient temperature**
If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacture's maximum rated ambient temperature (Tmra: 0°C to 35°C (32°F to 95°F)).
- b) Reduced air flow**
Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- c) Mechanical loading**
Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- d) Circuit overloading**
Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- e) Reliable earthing**
Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g., use of power strips).
- f) Gap keeping**
Upper and lower gap of rack-mounted equipment should be kept at least 44 mm (1 ¾ inches).

**For the customers in the United Kingdom
(BVM-D9H1E/D9H1A/D9H5E/D9H5A, BVM-D14H1E/
D14H1A/D14H5E/D14H5A)**

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow: Earth
Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol \perp or coloured green or green-and-yellow.

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Ensure that your equipment is connected correctly - if you are in any doubt consult a qualified electrician.

Achtung - bei Installation des Geräts in einem Gestell:

- a) Erhöhte Umgebungstemperatur bei Betrieb**
Wird das Gerät in einem geschlossenen Gestell oder einem Gestell mit mehreren anderen Geräten installiert, kann die Umgebungstemperatur um das Gestell höher sein als die normale Umgebungstemperatur im Raum. Achten Sie daher bitte besonders darauf, das Gerät in einer Umgebung zu installieren, in der die Temperatur nicht über die vom Hersteller angegebene Umgebungstemperatur von 0 bis 35 °C (32 °F bis 95 °F) ansteigt (Tmra).
- b) Reduzierte Belüftung**
Das Gerät muß so im Gestell installiert werden, daß eine Belüftung gewährleistet ist, die für den sicheren Betrieb des Geräts erforderlich ist.
- c) Mechanische Belastung**
Das Gerät muß so im Gestell installiert werden, daß nicht durch eine ungleichmäßige mechanische Belastung Unfallgefahr entsteht.
- d) Überlastung der Stromkreise**
Der Anschluß des Geräts an das Versorgungsnetz erfordert sorgfältige Planung. Bitte beachten Sie insbesondere die Auswirkungen, die eine Überlastung der Stromkreise im Hinblick auf den Überspannungsschutz und die physischen Komponenten des Versorgungsnetzes haben kann. Beachten Sie in diesem Zusammenhang unbedingt die Angaben auf dem Typenschild am Gerät.
- e) Zuverlässige Erdung**
Geräte, die in einem Gestell installiert werden, benötigen eine zuverlässige Erdung. Achten Sie insbesondere auf Anschlüsse an das Versorgungsnetz, die nicht direkt an einen Abzweigstromkreis, sondern indirekt, zum Beispiel über Verlängerungskabel, erfolgen.
- f) Erforderliche Abstände**
Halten Sie zur Ober- und Unterseite eines in einem Gestell installierten Geräts einen Abstand von 44 mm (1 ¾ inches) ein.

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Precautions

On safety

- Operate the unit only with a power source as specified in "Specifications" section.
- The nameplate indicating operating voltage, power consumption, etc., is located at the rear.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Do not drop or place heavy objects on the power cord. If the power cord is damaged, turn off the power immediately. It is dangerous to use the unit with a damaged power cord.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- Disconnect the power cord from the AC outlet by grasping the plug, not by pulling the cord.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- Use the supplied AC adaptor for the BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A models only. It is dangerous to use the AC adaptor for models other than these.

On installation

- Allow adequate air circulation to prevent internal heat build-up.
- Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.

On mounting the rack

When the monitor is mounted on the rack, the proximity of other equipment or a decrease in air circulation may cause heat to build up inside the monitor. Therefore, when mounting the monitor on the rack, ensure there is an adequate opening for ventilation or install a fan. The following operating conditions are needed:
 Temperature: 0°C to 35°C (32°F to 95°F),
 Optimum temperature: 20°C to 30°C (68°F to 86°F)

On the battery (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A only)

The MAIN POWER switch is not supplied with the above models. Therefore, when the power is turned off with a battery installed, the monitor is set to standby mode and a small amount of power is consumed. When the monitor is not used for a long period, remove the battery.

On cleaning

To keep the unit looking brand-new, periodically clean it with a mild detergent solution. Never use strong solvents such as thinner or benzene, or abrasive cleansers since they will damage the cabinet. As a safety precaution, unplug the unit before cleaning it.

On repacking

Do not throw away the carton and packing materials. They make an ideal container which to transport the unit.

If you have any questions about this unit, contact your authorized Sony dealer.

On magnetism

- Do not place the unit near any objects or pieces of equipment which generate magnetism, such as magnets, speakers, electric clocks, toys using magnets, health appliances, etc. Magnetism will cause picture bounce, oscillations or picture discoloration.
- Also, the picture may become fuzzy or the colors may not reproduce correctly due to earth magnetism. This depends on direction that the unit is installed. This is not equipment failure. In such a case, simply degauss the unit.

On the CRT

- Dust accumulates on the CRT easily. Clean the CRT when necessary with a soft cloth.
 The surface of the CRT is easily scratched; therefore, do not rub or touch the surface of the CRT unnecessarily since this may result in a scratched picture tube.
- If you touch the surface of the CRT, you may feel a weak electrical shock. This is simply static electricity that is generated on the surface of the CRT. It will not affect the human body.

On using as the monitor for 4:3 signals

The 16:9 mask is installed at the factory. When the display is set to the 4:3 aspect ratio, the upper and lower portions of the display are masked and you cannot view the upper and lower portions of the picture. Therefore, when you want to display the picture in 4:3 aspect ratio, install the supplied 4:3 mask.

Overview

The BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A are 9-inch Trinitron®¹⁾ Color Monitors. The BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A are 14-inch²⁾ Trinitron® Color Monitors.

Features

Multiformat

The monitor supports the principal format (480I/480P/720P/1080I) for the digital broadcasts, NTSC and PAL color systems, and a wide variety of signals³⁾ whose horizontal frequency is between 15 kHz and 45 kHz.

High resolution picture tube

The HR Trinitron picture tube produces a clear, high resolution image.

Model	Aperture grille pitch	Resolution at the center of the picture
BVM-D9H1U/ D9H1E/D9H1A/ D9H5U/D9H5E/ D9H5A	0.25 mm	450 TV lines (4:3) 340 TV lines (16:9)
BVM-D14H1U/ D14H1E/D14H1A/ D14H5U/D14H5E/ D14H5A	0.25 mm	800 TV lines (4:3) 600 TV lines (16:9)

Separate control unit (BVM-D9H1U/D9H1E/D9H1A/D14H1U/D14H1E/D14H1A)

Using a separate control unit reduces the space needed for the equipment.

The monitor is controlled by a separate control unit, such as an optional BKM-10R/11R Monitor Control Unit or by daisy chain connections.

Controlling monitor groups

Up to 32 monitors can be controlled from one control unit by the RS-485 serial remote connections. You can control individual monitors or monitor groups simply by entering monitor address or group numbers. You can also execute the same operation on all connected monitors, or put all connected monitors into the same setup and adjustment state.

Auto chroma phase and white balance functions

The chroma and phase of the decoder are automatically adjusted with the auto chroma phase function and the color temperature is automatically adjusted with the auto white balance function by using the BKM-14L Auto Setup Probe, etc.

4:3 area marker

It is possible to check the 4:3 aspect area in the 16:9 picture by displaying the 4:3 marker.

Expandable input capability

You can obtain HD SDI signals, D1 SDI signals, NTSC/PAL signals or YPbPr/RGB signals by installing the optional input adaptors at the rear of the monitor. The input connector configuration can be easily modified and up to three adaptors can be installed. The BKM-129X Analog Component Input Adaptor is installed at SLOT 1 at the factory.

Stable color temperature

The beam current feedback circuit maintains a constant color temperature over long periods of time.

Blue-only mode convenient for monitoring noise

All three CRT cathodes can be driven with a blue signal, producing a monochrome display. This mode is convenient for chroma and phase adjustment, and for monitoring VTR noise.

Other features

- The monitor's various functions and operating conditions can be set with on-screen menus.
- Has both RS-485 serial remote and relay contact parallel remote control connectors.
- H delay and V delay functions for simultaneous checking of the horizontal and vertical synchronization signals. VITS (Vertical Interval Test Signal) checking is also possible.
- Auto and manual degaussing.
- The monitor may be mounted in an EIA-standard 19-inch rack, using an optional MB-520 (for 9-inch monitor) or BKM-30E14/31E14 (for 14-inch monitor) Rack Mount Kit.
- The appearance of the monitor can be changed to 16:9 or 4:3 display by the replacement of a mask.
- Operable by using a Sony lithium ion battery (BP-L60/L90A) or DC 12 V external power source. (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A only)
- Built-in audio reproduce circuit and speaker. (BVM-D9H5U/D9H5E/D9H5A only)

Options

For external control

BKM-10R Monitor Control Unit

A controller for the BVM-D9H/D14H series video monitors, allowing you to control multiple monitors from one control unit.

BKM-11R Monitor Control Unit

A controller for the BVM-D9H/D14H and other BVM/HDM series video monitors, allowing you to control multiple monitors from one control unit.

BKM-14L Auto Setup Probe

A probe, allowing the automatic adjustment of this monitor's color temperature.

For installation

MB-520 Mounting Bracket

Mounting bracket to mount one or two BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A in a 19-inch EIA standard rack.

MB-519 Mounting Panel

Panel for the BVM-D9H1U/D9H1E/D9H1A to fill up the space created when mounting a video monitor to a rack with the MB-520 mounting bracket.

MB-509 Mounting Panel

Panel for the BVM-D9H5U/D9H5E/D9H5A to fill up the space created when mounting a video monitor to a rack with the MB-520 mounting bracket.

BKM-30E14 Rack Mount Kit

Rack mount kit for mounting the BVM-D14H5U/D14H5E/D14H5A in an EIA standard 19-inch rack.

BKM-31E14 Rack Mount Kit

Rack mount kit for mounting the BVM-D14H1U/D14H1E/D14H1A in an EIA standard 19-inch rack.

Others

VF-508 Monitor ENG Kit

Kit that includes a light intercepting hood which is mounted on the front of a monitor, and a connector protector which is mounted on the rear.

Input adaptors

The input connector panel is configured by sliding the optional input adaptor into the input option slot at the rear of the monitor. Up to three adaptors can be installed to the monitor.

The input signal type for each connector of the adaptor is set with the INPUT CONFIG menu, in accordance with the configuration of the connector panel.

Note

When installing the adaptor, be sure to perform the necessary input signal setup with the INPUT CONFIG menu. If the setup is not performed, the adaptors may not function correctly.

For information about the INPUT CONFIG menu, see "[C] Setting the Input Configuration — INPUT CONFIG Menu" on page 35(E).

1) Trinitron® is a registered trademark of Sony Corporation.
2) 9-inch and 14-inch refer to the CRT size of the monitor.
For effective picture size, see "Specifications" on page 47(E).
3) For details on the signal format, see "Available Signal Format" on page 53(E).

Overview

BKM-120D SDI 4:2:2 Input Adaptor

Includes a decoder for serial digital component signals. D1 SDI input/output connectors for two serial digital channels and active loop-through output connectors.

BKM-127W NTSC/PAL Input Adaptor

Includes decoders for analog composite NTSC and PAL signals. Input/output connectors for two analog channels and one YC channel.

BKM-129X Analog Component Input Adaptor

Includes input/output connectors for one analog channel and EXT SYNC input/output connectors.

The BKM-129X is mounted to the monitor at the factory.

BKM-142HD HD SDI Input Adaptor

Includes a decoder for HD serial digital signals and input/output connectors for two serial digital signal channels and monitor output connector.

Notes

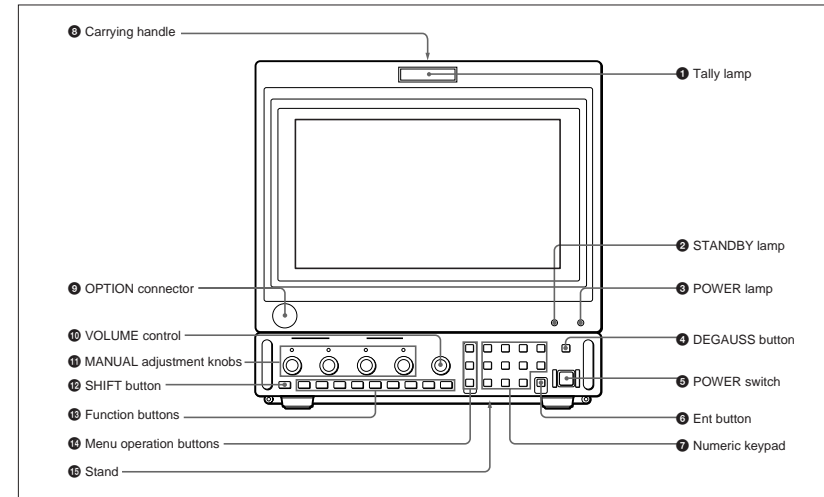
- The BKM-142HD uses two input option slots.
- The signal from MONITOR OUT connector does not satisfy the ON-LINE signal specifications.

Location and Function of Parts

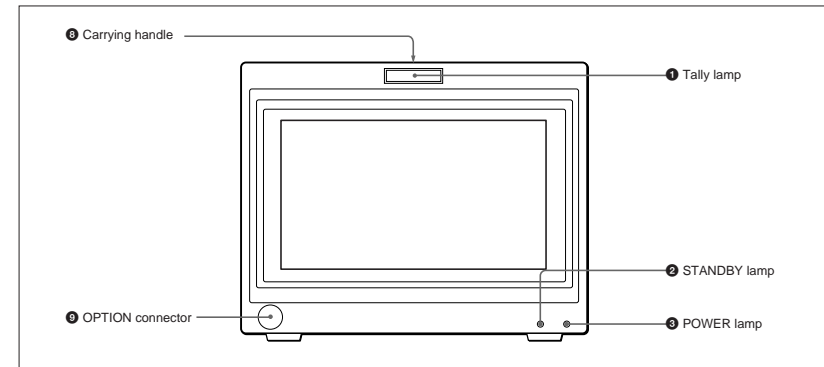
BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A Front Panel

For the BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A, see pages 16(E) to 20(E).

BVM-D9H1U/D9H1E/D9H1A



BVM-D9H5U/D9H5E/D9H5A



Location and Function of Parts

This manual explains the location and function of parts and controls of the BVM-D9H5U/D9H5E/D9H5A. The explanation also applies to the optional BKM-10R/11R Monitor Control Unit.

1 Tally lamp

With factory settings, the tally lamp lights as follows when the pins of the PARALLEL REMOTE [1] connector on the rear panel are shorted:

- in red, when pins No.3 and No.9 are shorted.
- in green, when pins No.4 and No.9 are shorted.
- in amber, when pins No.3, No.4 and No.9 are shorted.

The tally lamp lights as follows when the pins of the PARALLEL REMOTE [2] connector on the rear panel are shorted:

- in red, when pins No.3 and No.5 are shorted.
- in green, when pins No.4 and No.5 are shorted.
- in amber, when pins No.3, No.4 and No.5 are shorted.

By changing the setting in the REMOTE menu, different pins on the remote connector can be used to control the tally lamp.

For information about the REMOTE menu, see “[D] Assigning the Remote Control Functions — REMOTE Menu” on page 37(E).

2 STANDBY lamp

Lights when the monitor is in standby mode. The monitor will be in standby mode under the following conditions:

- The AC adaptor or battery is attached to the monitor when the STANDBY MODE menu of the SYSTEM CONFIG menu is set to ON.
- The monitor is changed from operation mode to standby mode by external control.

For information about the SYSTEM CONFIG menu, see “[E] Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu” on page 39(E).

3 POWER lamp

Lights when the monitor is put into operation mode from standby mode (see STANDBY lamp 2) by pressing the POWER switch 5.

Note

When the STANDBY lamp 2 is blinking, the monitor cannot be put into operation mode (internal data initialization is taking place). Wait until the STANDBY lamp 2 is steadily lit.

4 DEGAUSS button

Press to degauss the CRT (every time the monitor is turned on, the CRT is degaussed automatically). To degauss again, wait for more than five minutes.

5 POWER switch

Press to turn on/off the monitor. By setting with the ADDRESS menu, it is possible to turn on/off the power of the specified monitors only, or of all monitors at the same time.

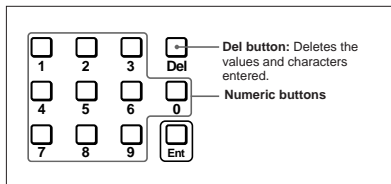
For information about the ADDRESS menu, see “Selecting the Monitor to Control — ADDRESS Menu” on page 45(E).

6 Ent button

Use to confirm the items, values and characters entered.

7 Numeric keypad

Use to designate the channel number for the input signal to be monitored, or to enter the setting values with the menus.



8 Carrying handle

Pull out to use for carrying the monitor.

9 OPTION connector

Used to connect the BKM-11R Monitor Control Unit or Auto Setup Probe (BKM-14L, etc.)

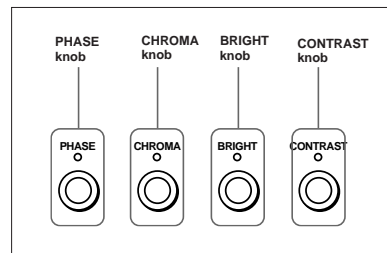
10 VOLUME control

Adjusts the volume of the audio signals from the equipment connected to the AUDIO IN jacks at the rear of the monitor.

11 MANUAL adjustment knobs

Each press of one of these knobs turns the knob's green LED on or off. When the corresponding knob is on (lit), it is possible to manually adjust the contrast, brightness, chroma and phase by turning the corresponding knobs. The PHASE knob is also used to select the items or enter the setting values with the menus. It is possible to set the preset value for each adjusting item with the CONTROL PRESET ADJ menu.

For information about the CONTROL PRESET ADJ menu, see “[A] Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ menu” on page 31(E).



Note

The PHASE and CHROMA knobs may not be adjusted due to the signals. However, these knobs are used for selecting the items or entering the setting values with the menus.

12 SHIFT button

Press to select one of the two functions designated to the function buttons 13.

Each time the SHIFT button is pressed, the LED turns on (SHIFT ON: lits in umber) and off (SHIFT OFF.)

SHIFT OFF: The functions indicated above the function buttons can be used (the LED of the function button lits in green.)

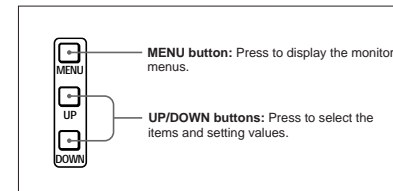
SHIFT ON: The functions indicated below the function buttons can be used (the LED of the function button lits in amber.)

13 Function buttons

Change the operation conditions for the monitor. Each time the button is pressed, the LED turns on and turns off, and the operation conditions are changed. Each button has two functions. Select one of the two functions by pressing the SHIFT button 12. When the SHIFT button is set to ON, the LED lights in umber, and when the SHIFT button is set to OFF, the LED of each button lights in green.

For the functions of the function buttons in case of SHIFT OFF and SHIFT ON, see pages 10(E) and 11(E).

14 Menu operation buttons

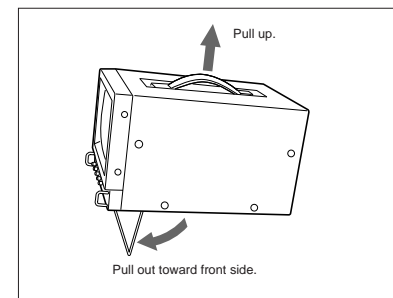


For more information about menu operation, see “Basic Menu Operations” on page 25(E).

15 Stand

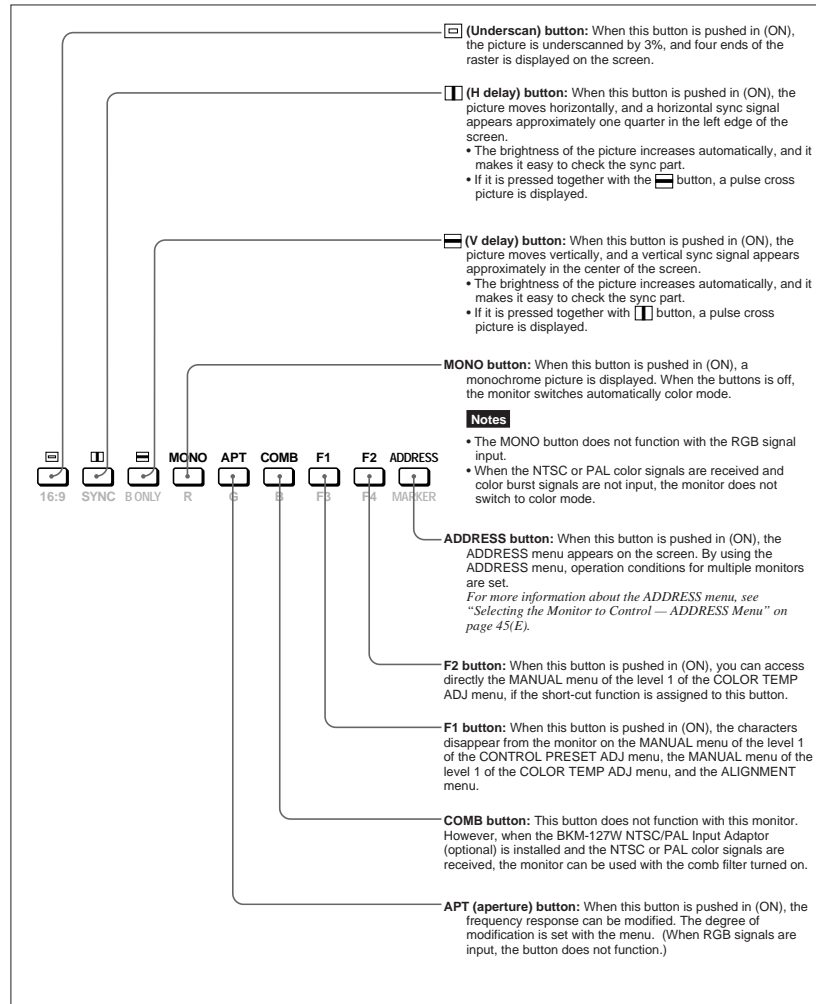
Pull out to use.

Using the Carrying Handle and Stand



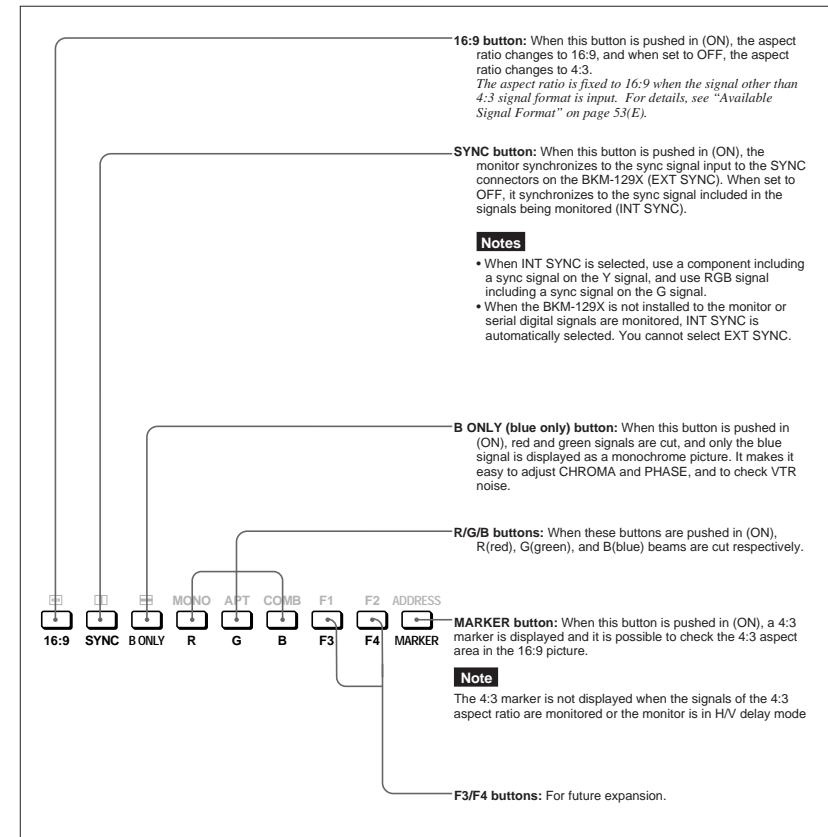
Location and Function of Parts

Function buttons in SHIFT OFF mode (LEDs of function buttons in green)



10 (E)

Function buttons in SHIFT ON mode (LEDs of function buttons in amber)



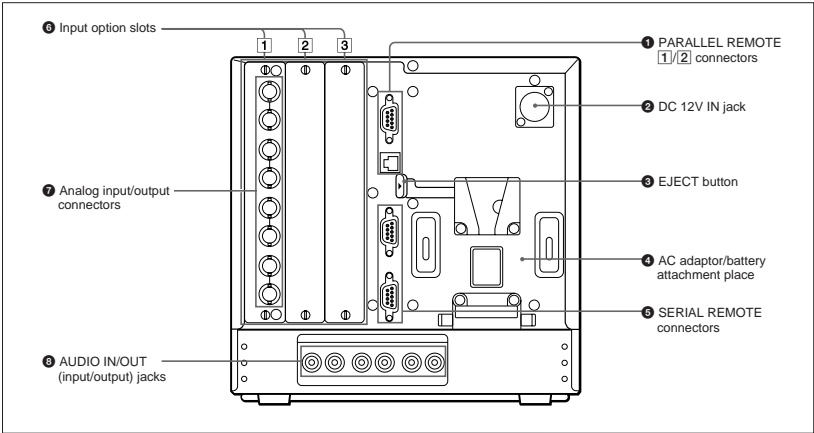
11 (E)

Location and Function of Parts

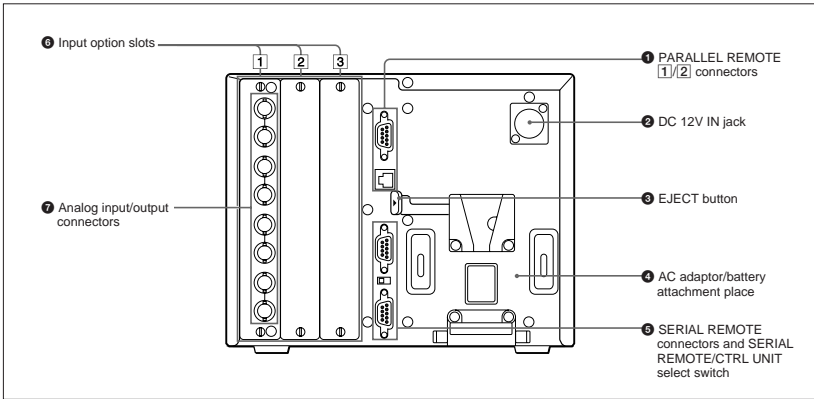
BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A Rear Panel

For the BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A, see pages 21(E) to 23(E).

BVM-D9H5U/D9H5E/D9H5A

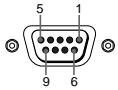


BVM-D9H1U/D9H1E/D9H1A



1 PARALLEL REMOTE 1/2 connectors
(1): female, D-sub 9-pin, (2): modular connector
Form a parallel switch and controls the monitor externally. The pin assignment and factory setting function assigned to each pin are given below.

1: D-sub 9-pin



Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	Select sync signal (SYNC button function)
6	Set underscan on or off
7	Set a 16:9 aspect ratio on or off
8	Set the 4:3 area marker display on or off
9	GND

2: modular connector



Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	GND
6	Set underscan on or off

All pin function assignments can be changed with the REMOTE menu.

For information about the REMOTE menu, see " [D] Assigning the Remote Control Functions — REMOTE Menu" on page 37(E).

To switch each function between on and off or between enable and disable, change pin connections in the following way.

ON or enabled: Short each pin and pin 9 together for D-sub 9-pin.

Short each pin and pin 5 together for modular connector.

OFF or disabled: Leave each pin open.

2 DC 12V IN jack (XLR-type, 4-pin)
Connects the DC 12V external power source to use the monitor.

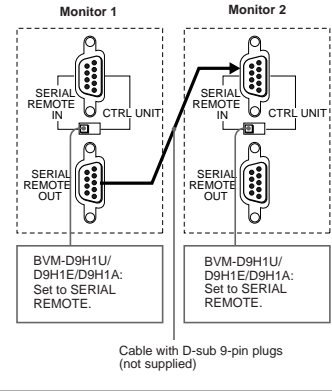
3 EJECT button
While sliding this button, remove the AC adaptor or battery.

4 AC adaptor/battery attachment place
Attach the AC adaptor or battery.

5 SERIAL REMOTE connectors (female, D-sub 9-pin), and SERIAL REMOTE/CTRL UNIT select switch (BVM-D9H1U/D9H1E/D9H1A only)
These are RS-485 serial interface connectors, used for connecting two or more BVM-xxE/F/G, BVM-xxD and HDM-xxE series monitors. The IN and OUT connectors form a loop-through connection.
BVM-D9H1U/D9H1E/D9H1A only: The SERIAL REMOTE/CTRL UNIT select switch is set to SERIAL REMOTE at the factory.

For connecting the monitor (used for daisy chain connections)

Connect two monitors using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as follows:

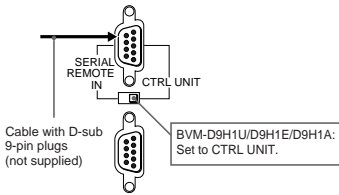


(continued)

Location and Function of Parts

For connecting the BKM-10R Monitor Control Unit

Connect the monitor and control unit using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as follows:



⑥ Input option slots (three slots)

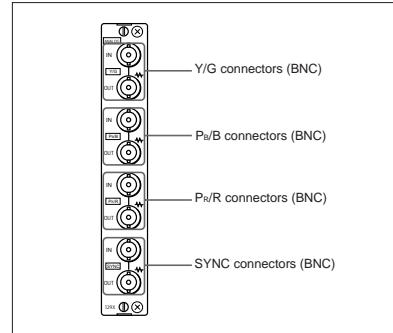
The monitor may be fitted with optional input adaptors up to three.

The BKM-129X is installed to the monitor at the factory.

Notes

- The BKM-142HD uses two input option slots.
- Each adaptor can also be installed into SLOT 1. Install any adaptor to SLOT 1.

⑦ Analog input/output connectors (BKM-129X)



RGB signals or component signals (Y/P_B/P_R) can be fed in the IN connectors. The type of signal applied to each connector is set with the INPUT CONFIG menu. The OUT connectors are used for loop-through output of the input signal.

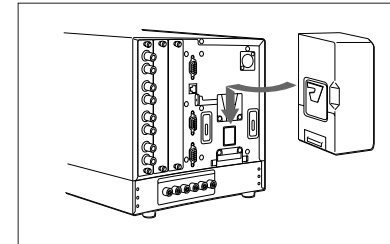
For information about the INPUT CONFIG menu, see “[\[C\] Setting the Input Configuration — INPUT CONFIG Menu](#)” on page 35(E).

⑧ AUDIO IN/OUT (input/output) jacks (BVM-D9H5U/D9H5E/D9H5A only)

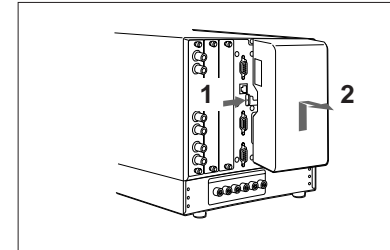
Connects to the audio output jacks of the VCR or microphone amplifier. The monitor is equipped with three input and output jacks. You can obtain the loop-through output from the OUT jacks.

Attaching the AC adaptor or battery

Attaching



Removing the AC adaptor or battery

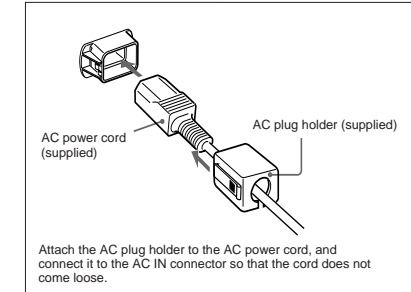


Note

Use the supplied AC adaptor for the BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A models only. It is dangerous to use the AC adaptor for models other than these.

Connecting the AC power cord

Attach the AC adaptor to the monitor, and then connect the supplied AC power cord.

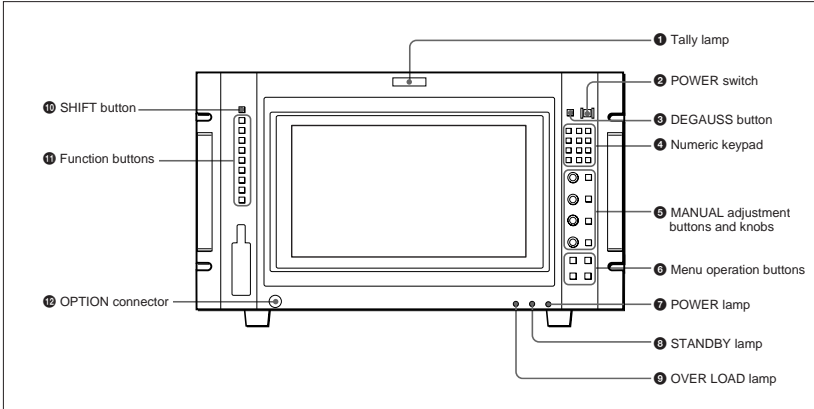


Attach the AC plug holder to the AC power cord, and connect it to the AC IN connector so that the cord does not come loose.

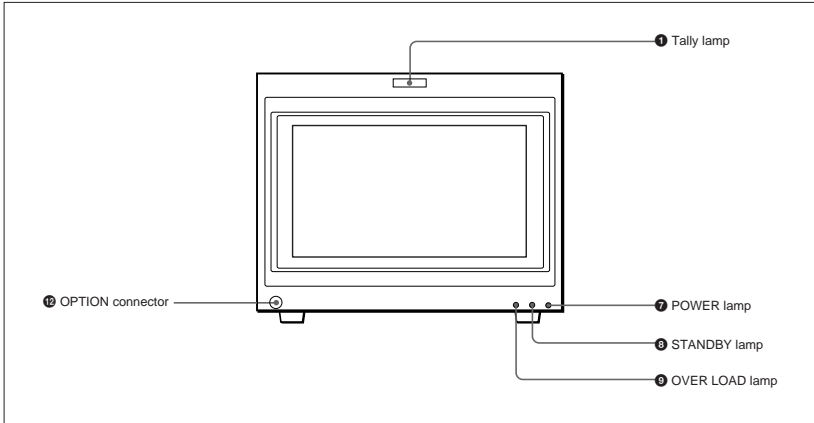
Location and Function of Parts

BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A Front Panel

BVM-D14H5U/D14H5E/D14H5A



BVM-D14H1U/D14H1E/D14H1A



This manual explains the location and function of parts and controls of the BVM-D14H5U/D14H5E/D14H5A. The explanation also applies to the optional BKM-10R/11R Monitor Control Unit.

1 Tally lamp

With factory settings, the tally lamp lights as follows when the pins of the PARALLEL REMOTE 1 connector on the rear panel are shorted:

- in red, when pins No.3 and No.9 are shorted.
- in green, when pins No.4 and No.9 are shorted.
- in amber, when pins No.3, No.4 and No.9 are shorted.

The tally lamp lights as follows when the pins of the PARALLEL REMOTE 2 connector on the rear panel are shorted:

- in red, when pins No.3 and No.5 are shorted.
- in green, when pins No.4 and No.5 are shorted.
- in amber, when pins No.3, No.4 and No.5 are shorted.

By changing the setting in the REMOTE menu, different pins on the remote connector can be used to control the tally lamp.

For information about the REMOTE menu, see "D Assigning the Remote Control Functions — REMOTE Menu" on page 37(E).

2 POWER switch

Press to turn on/off the monitor. By setting with the ADDRESS menu, it is possible to turn on/off the power of the specified monitors only, or of all monitors at the same time.

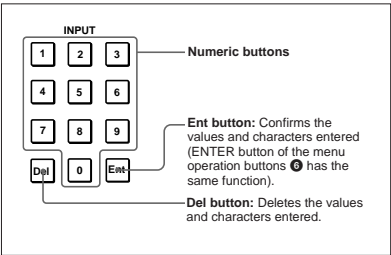
For information about the ADDRESS menu, see "Selecting the Monitor to Control — ADDRESS Menu" on page 45(E).

3 DEGAUSS button

Press to degauss the CRT (every time the monitor is turned on, the CRT is degaussed automatically). To degauss again, wait for more than five minutes.

4 Numeric keypad

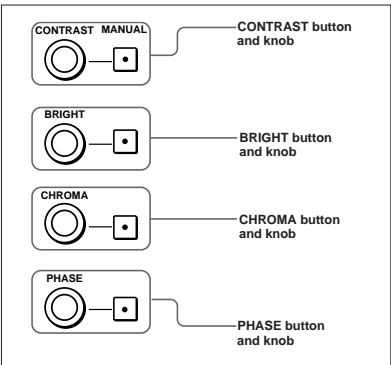
Use to designate the channel number for the input signal to be monitored, or to enter the setting values with the menus.



5 MANUAL adjustment buttons and knobs

Each press of one of these buttons turns the button's green LED on or off. When the corresponding button is on (lit), it is possible to manually adjust the contrast, brightness, chroma and phase by turning the corresponding knobs. The PHASE knob is also used to enter the setting values with the menus. It is possible to set the preset value for each adjusting item with the CONTROL PRESET ADJ menu.

For Information about the CONTROL PRESET ADJ menu, see "A Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ menu" on page 31(E).



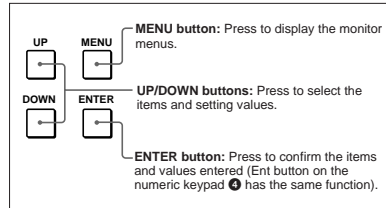
Note

The PHASE and CHROMA knobs may not be adjusted due to the signals. However, these knobs are used for selecting the items or entering the setting values with the menus.

(continued)

Location and Function of Parts

6 Menu operation buttons



For more information about menu operation, see “Basic Menu Operations” on page 25(E).

7 POWER lamp

Lights when the monitor is put into operation mode from standby mode (see STANDBY lamp 8) by pressing the POWER switch 2.

Note

When the STANDBY lamp 8 is blinking, the monitor cannot be put into operation mode (internal data initialization is taking place). Wait until the STANDBY lamp 8 is steadily lit.

8 STANDBY lamp

Lights when the monitor is in standby mode. The monitor will be in standby mode under the following conditions:

- The MAIN POWER switch (on the rear panel) is turned on when the STANDBY MODE menu of the SYSTEM CONFIG menu is set to ON (the STANDBY lamp will blink for a few moments after the switch is turned on, then will light).
- The monitor is changed from operation mode to standby mode by external control.

For information about the SYSTEM CONFIG menu, see “[E] Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu” on page 39(E).

9 OVER LOAD lamp

Lights when some malfunction has occurred. When the OVER LOAD lamp is lit, consult your nearest Sony service facilities.

10 SHIFT button

Press to select one of the two functions designated to the function buttons 11.

Each time the SHIFT button is pressed, the LED turns on (SHIFT ON: lits in umber) and off (SHIFT OFF.)

SHIFT OFF: The functions indicated above the function buttons can be used (the LED of the function button lits in green.)

SHIFT ON: The functions indicated below the function buttons can be used (the LED of the function button lits in amber.)

11 Function buttons

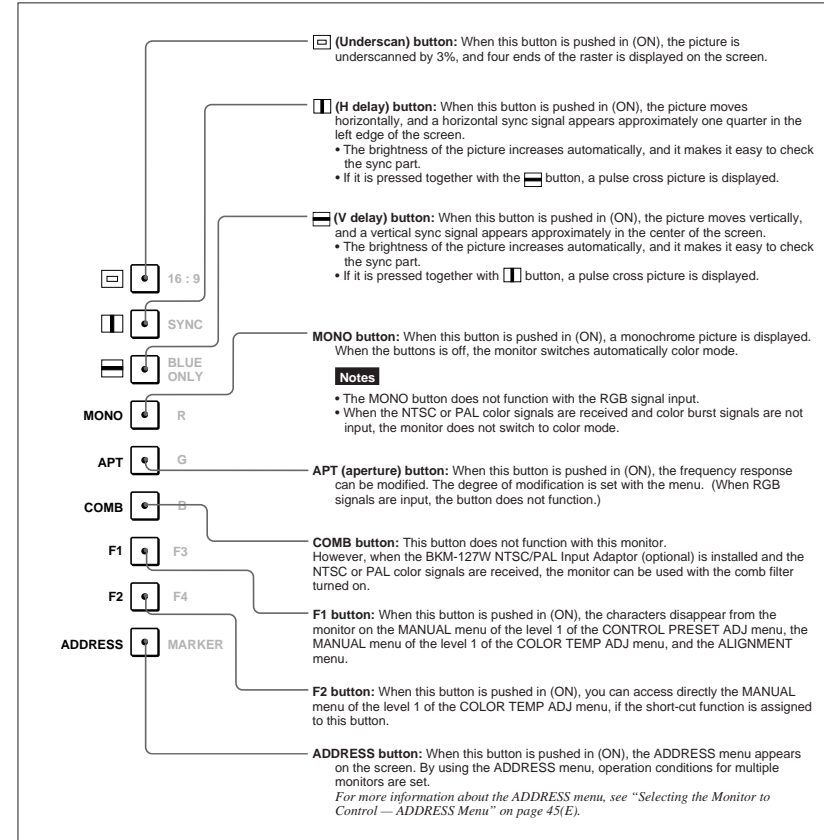
Change the operation conditions for the monitor. Each time the button is pressed, the LED turns on and turns off, and the operation conditions are changed. Each button has two functions. Select one of the two functions by pressing the SHIFT button 10. When the SHIFT button is set to ON, the LED lights in umber, and when the SHIFT button is set to OFF, the LED of each button lights in green.

For the functions of the function buttons in case of SHIFT OFF and SHIFT ON, see pages 19(E) and 20(E).

12 OPTION connector

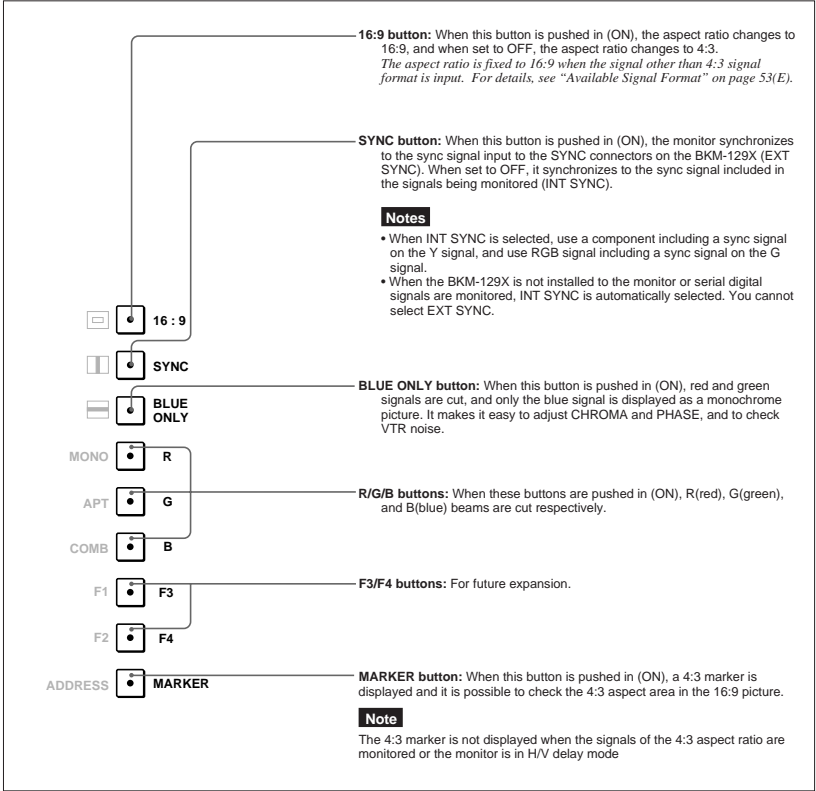
Used to connect the BKM-11R Monitor Control Unit or Auto Setup Probe (BKM-14L, etc.)

Function buttons in SHIFT OFF mode (LEDs of function buttons in green)



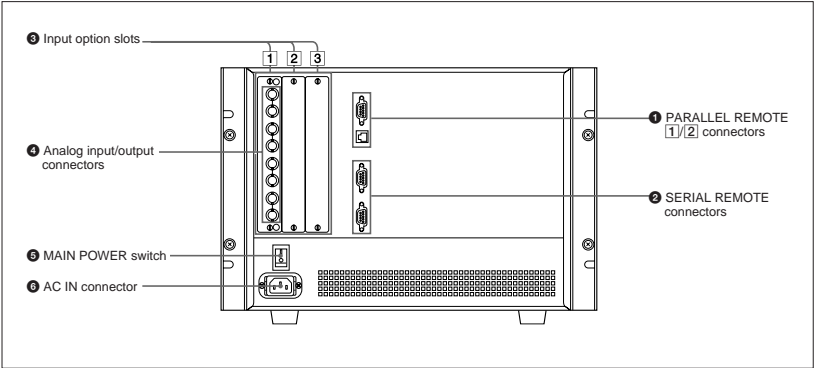
Location and Function of Parts

Function buttons in SHIFT ON mode (LEDs of function buttons in amber)

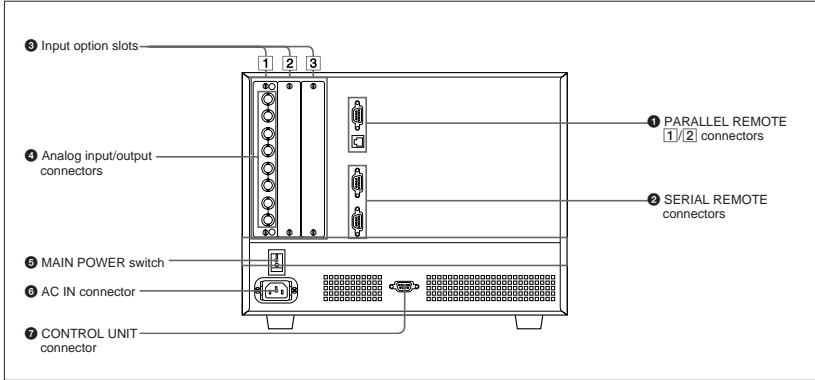


BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A Rear Panel

BVM-D14H5U/D14H5E/D14H5A



BVM-D14H1U/D14H1E/D14H1A



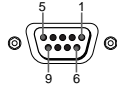
(continued)

Location and Function of Parts

① PARALLEL REMOTE①/② connectors (①: female, D-sub 9-pin, ②: modular connector)

Form a parallel switch and controls the monitor externally. The pin assignment and factory setting function assigned to each pin are given below.

①: D-sub 9-pin



Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	Select sync signal (SYNC button function)
6	Set underscan on or off
7	Set a 16:9 aspect ratio on or off
8	Set the 4:3 area marker display on or off
9	GND

②: modular connector



Pin number	Functions
1	Set input signal channel 1 (numeric keypad function)
2	Set input signal channel 2 (numeric keypad function)
3	Set red tally lamp on or off
4	Set green tally lamp on or off
5	GND
6	Set underscan on or off

All pin function assignments can be changed with the REMOTE menu.

For information about the REMOTE menu, see “[D](#) Assigning the Remote Control Functions — REMOTE Menu” on page 37(E).

To switch each function between on and off or between enable and disable, change pin connections in the following way.

ON or enabled: Short each pin and pin 9 together for D-sub 9-pin.
Short each pin and pin 5 together for modular connector.

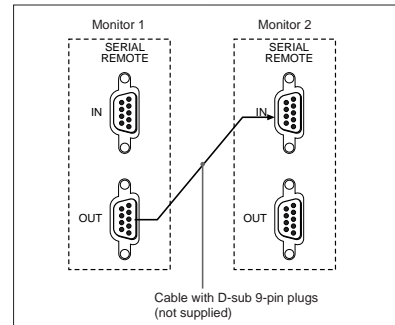
OFF or disabled: Leave each pin open.

② SERIAL REMOTE connectors (female, D-sub 9-pin)

These are RS-485 serial interface connectors, used for connecting two or more BVM-xxE/F/G, BVM-xxD and HDM-xxE series monitors.

The IN and OUT connectors form a loop-through connection.

Connect two monitors using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied) as shown in the figure on the next page.



③ Input option slots (three slots)

The monitor may be fitted with optional input adaptors up to three.

The BKM-129X is installed to the monitor at the factory.

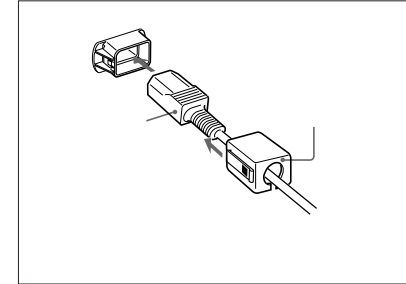
Notes

- The BKM-142HD uses two input option slots.
- Each adaptor can also be installed into SLOT 1. Install any adaptor to SLOT 1.

④ Analog input/output connectors (BKM-129X)

⑥ AC IN connector (3-pin)

Connects the monitor to an AC power source, via the supplied AC power cord.



⑦ CONTROL UNIT connector (female, D-sub 9-pin) (BVM-D14H1U/D14H1E/D14H1A only)

Connects a monitor control unit such as the BKM-10R using a cable with D-sub 9-pin plugs such as an RCC-5G (not supplied).

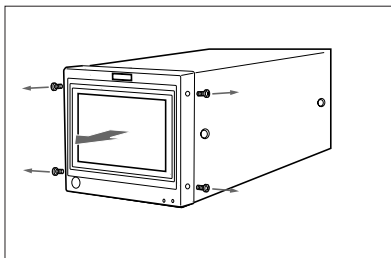
Installation of the 4:3 Mask

When the aspect ratio is switched from 16:9 to 4:3, replace the 16:9 mask with the supplied 4:3 mask.

BVM-D9H1U/D9H1E/D9H1A/ D9H5U/D9H5E/D9H5A

Installing the 4:3 mask

- 1 Remove four screws from both sides of the monitor and then remove the 16:9 mask.



- 2 Install the 4:3 mask (supplied) and fix both sides with four screws.

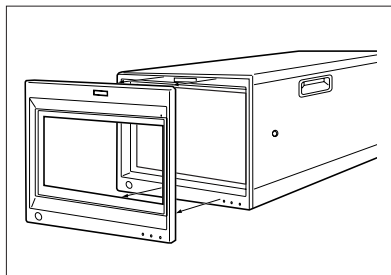
Replacing the 16:9 mask

Remove the 4:3 mask and replace the 16:9 mask using the same procedures as those for installing the 4:3 mask.

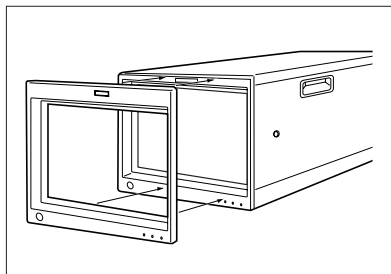
BVM-D14H1U/D14H1E/D14H1A/ D14H5U/D14H5E/D14H5A

Installing the 4:3 mask

- 1 Remove the 16:9 mask.



- 2 Install the 4:3 mask (supplied).
① Attach the lower portion of the mask.
② Attach the upper portion of the mask by pressing it until the click.



Replacing the 16:9 mask

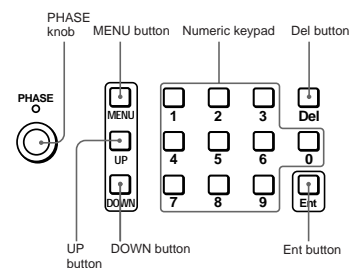
Remove the 4:3 mask and replace the 16:9 mask using the same procedures as those for installing the 4:3 mask.

Basic Menu Operations

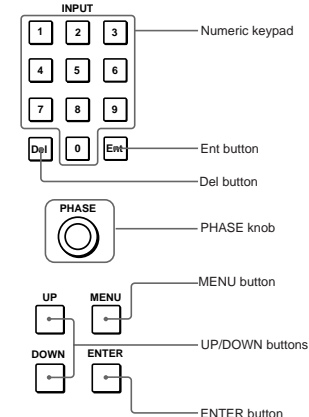
Menu Operation Buttons

The menus are operated using the menu operation buttons on the front panel of the monitor or BKM-10R/11R Monitor Control Unit.

Buttons on the BVM-D9H5U/D9H5E/D9H5A



Buttons on the BVM-D14H5U/D14H5E/D14H5A



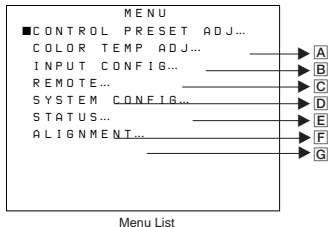
The functions of the menu operation buttons are described below.

Button	Function
UP button	Moves the cursor upward. In setting mode, increases the setting and adjustment values.
DOWN button	Moves the cursor downward. In setting mode, decreases the setting and adjustment values.
MENU button	Displays the Menus. Goes back to the menu of the upper level (on the Main Menu, goes back to the normal picture).
ENTER button/ Ent button	Executes the items selected and settings.
PHASE knob	By turning this knob clockwise, the cursor moves upward. In setting mode, increases the setting and adjustment values (has the same function as UP button). By turning this knob counterclockwise, the cursor moves downward. In setting mode, decreases the setting and adjustment values (has the same function as DOWN button).
Numeric keypad	Enters the numerical values.
Del button	Deletes the values and characters entered.

Basic Menu Operations

Displaying the Menus

Press the MENU button.
The menu list is displayed on the screen.



When you select one item on the main menu, the level 1 menu corresponding to the selected item on the main menu appears.

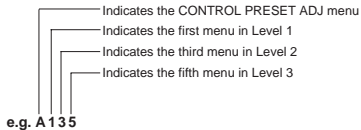
For information about the items on the main menu, see “Menu Structure” on page 30(E).

Note

Menu settings that cannot be changed are displayed in blue.

About menu numbers

For purposes of explanation in this manual, each menu is preceded by menu numbers. The alphabet determines the classification of menus on the Menu List (Main Menu), and the numbers determine the level and the order. These menu numbers are not shown on the screen.



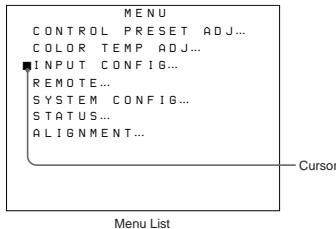
Note

Only the menus which require explanation are preceded by menu numbers. Thus, the menu number is counted without menus which do not require explanation.

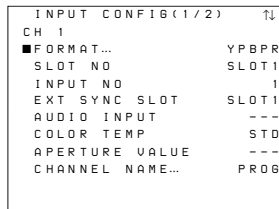
Menu Operation

Follow the steps described below to display the menu and perform the adjustment or setup you wish.

- 1 Press the MENU button.
The Menu List is displayed.
- 2 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item. (Example: select the INPUT CONFIG menu by pressing the DOWN button.)

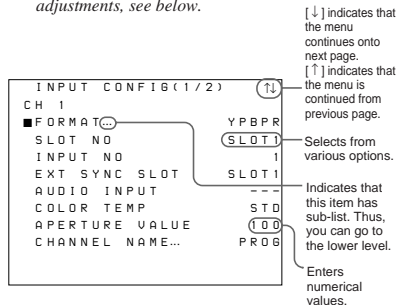


- 3 Press the ENTER button or Ent button.
The Level 1 of the selected menu is displayed.



(continued)

- 4 Repeat steps 2 and 3 until the desired menu is displayed.
For more information about setting and adjustments, see below.



To abort menu operation

Press the MENU button. The menu of the upper level is displayed.
The setting or adjustment being performed is canceled, and data loading or saving is aborted.

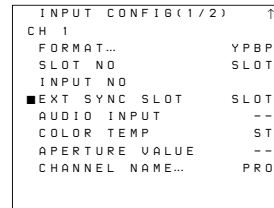
If “NG” or “ERROR” appears during menu operation

Press the MENU button to return to the menu in use.

Choosing one of two or more selections

Selecting in setting mode

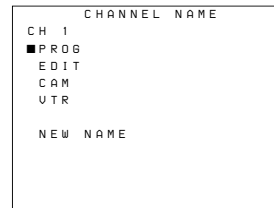
- 1 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item and press the ENTER or Ent button.
The selected item is displayed in yellow text and set to setting mode.



- 2 Using the UP/DOWN buttons or PHASE knob, change the setting.
- 3 Press the ENTER or Ent button.
The setting is confirmed (The item is displayed in white text again).

Selecting from the setting list

- 1 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item in the setting list.



- 2 Press the ENTER or Ent button.
The display returns to the menu of the upper level, and the selected setting is executed.

Basic Menu Operations

Entering a numerical value

- 1 Using the UP/DOWN buttons or PHASE knob, move the cursor to the desired item and press the ENTER or Ent button. The selected item is displayed in yellow text and set to setting mode.

```
INPUT CONFIG(1/2) ↕
CH 1
FORMAT...      YPBPR
SLOT NO        SLOT1
INPUT NO       1
EXT SYNC SLOT  SLOT1
AUDIO INPUT    --
COLOR TEMP     STD
■ APERTURE VALUE 100
CHANNEL NAME... PROG
```

- 2 Set the value in one of the following three ways:
 - Enter the value directly using the numeric keypad and press the ENTER or Ent button
 - Select the value using the UP/DOWN buttons
 - Select the value using the PHASE knob
- 3 Press the ENTER or Ent button. The setting is confirmed (The item is displayed in white text again).

Entering characters

- 1 Display the setting menu and set the cursor to NEW NAME using the UP/DOWN buttons or PHASE knob.

```
CHANNEL NAME
CH 1
PROG
EDIT
CAM
UTR
■ NEW NAME
```

- 2 Press the ENTER or Ent button. “?” is displayed in yellow. The “?” indicates the position where character input is possible.

```
CHANNEL NAME
CH 1
PROG
EDIT
CAM
UTR
■ NEW NAME
?
```

- 3 Select the character you wish to enter using the UP/DOWN buttons or PHASE knob. When you press the UP button, or turn the PHASE knob clockwise, the characters and symbols appear in the order shown below.

A BY Z 0 18 9 (,) : ; .
- + / & (space) ?

If you press the UP/DOWN button or turn the PHASE knob counterclockwise, the characters and symbols appear in the reverse order described above.

- 4 Press the ENTER or Ent button. The selected character is entered.

```
CHANNEL NAME
CH 1
PROG
EDIT
CAM
UTR
■ NEW NAME
C?
```

- 5 Repeat steps 3 and 4 until all the characters are entered, then press the ENTER or Ent button. The selected characters are confirmed, and the display returns to the menu of the previous level.

To correct the entered character

Press the Del button on the numeric keypad. The character on the left side of the “?” (in yellow) is deleted.

ADDRESS Menu

In addition to the menus displayed on the menu list, the ADDRESS menu is provided. This ADDRESS menu is used to select the monitor or the monitor group, so that when several monitors are connected together via serial remote ports, the control panel can select which monitor to control.

To display or exit the ADDRESS menu, press the ADDRESS button. The method of choosing menu items and changing settings is the same as with the other menus.

For information about the ADDRESS menu, see “Selecting the Monitor to Control —ADDRESS Menu” on page 45(E).

Menu Structure

Menus consist of one to three levels.

Detailed information on the levels of menus is described at the top of explanation of each menu.

	Main Menu	Functions
[A]	CONTROL PRESET ADJ menu	Sets the preset values for the input signal's chroma, contrast, phase, and brightness. (page 31(E))
[B]	COLOR TEMP ADJ menu	Sets the color temperature. (page 33(E))
[C]	INPUT CONFIG menu	Sets the input channel. (page 35(E))
[D]	REMOTE menu	Sets the remote control functionality. (page 37(E))
[E]	SYSTEM CONFIG menu	Sets the power-up conditions and data about the screen display. (page 39(E))
[F]	STATUS menu	Displays the information about the monitor or options installed in the monitor. (page 42(E))
[G]	ALIGNMENT menu	Adjusts the position, size and geometry of the picture. (page 43(E))

A Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ Menu

Overview

The preliminary adjustments of chroma, phase, contrast and brightness are carried out with the CONTROL PRESET ADJ menu to set the preset values to the knobs for the above-mentioned adjustments.

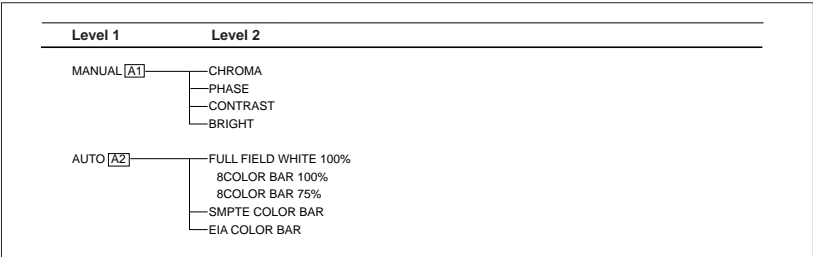
Preset values can be set in the following two ways:

- **Adjustment with the MANUAL adjustment knobs (MANUAL menu)**
- **Automatic adjustment (AUTO menu)**
An external color bar signal is necessary.

Note

After installing the optional board, carry out AUTO adjustment.

Structure of the CONTROL PRESET ADJ Menu



Setting Lists in the CONTROL PRESET ADJ Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.

For more information about the menu number, see "About menu numbers" on page 26(E).

- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[A] Preset Adjustment of the Picture Level Control Knobs — CONTROL PRESET ADJ Menu

[A] CONTROL PRESET ADJ menu

Select the setting method.

MANUAL... : Set with the MANUAL adjustment knobs. ⇨[A1]

AUTO... : Set by automatic adjustment. ⇨[A2]

[A1] MANUAL menu

Adjust values by turning the CHROMA, PHASE, CONTRAST, and/or BRIGHT knobs. After the adjustment, press the ENTER or Ent button to confirm the adjusted values.

The setting value is 0 to 200.

CHROMA: xxx

PHASE: xxx

CONTRAST: xxx

BRIGHT: xxx

When you want to erase characters from the screen while adjusting manually

Press the [F1] button. The characters disappear. To display characters, press the [F1] button again.

To reset the setting to the default

Press the corresponding MANUAL adjustment button (BVM-D14H5U/D14H5E/D14H5A) or knob (BVM-D9H5U/D9H5E/D9H5A.) The adjusted value is reset to 100 (default).

[A2] AUTO menu

You can adjust the CHROMA and PHASE levels automatically. Input the color bar signals to the board to be adjusted and select the required color bar signals. ⇨Adjustment is carried out.

8COLOR BAR 100%: 100% full-field 8-color bar (white, yellow, cyan, green, magenta, red, blue, black)

8COLOR BAR 75%: 75% full-field color bar (with 100% white signal)

SMPTE COLOR BAR: SMPTE standard color bar

EIA COLOR BAR: EIA standard color bar

Note

When you execute the AUTO menu, SYNC button should be set to OFF (INT SYNC). EXT SYNC will cause an error abortion of auto adjustment procedure.

[B] Adjusting the Color Temperature — COLOR TEMP ADJ Menu

Overview

The monitor can memorize the data for up to three color temperatures (STD, COL1, COL2.) The data for each color temperature is adjusted with the COLOR TEMP ADJ menu. The data of the color temperature selected in the INPUT CONFIG menu is adjusted. Color temperature adjustment can be made in the following three ways:

• **Knob adjustment (MANUAL menu)**

You can adjust the color temperature with the bias and gain knobs.

• **Automatic adjustment using a probe (PROBE menu)**

You can use the following probes for automatic adjustment of color temperature. Except for the Sony BKM-14L, a cable is required to connect the color analyzer to the monitor.

Manufacturer	Probe Model Name
SONY	BKM-14L (no cable required)
GRASEBY	SLS 9400
MINOLTA	CA-100
PHILIPS	PM 5639
THOMA	TF6

For more information about the cable specification required and about the connection, see “Connection Cable Specifications for Color Temperature Probes” on page 54(E).

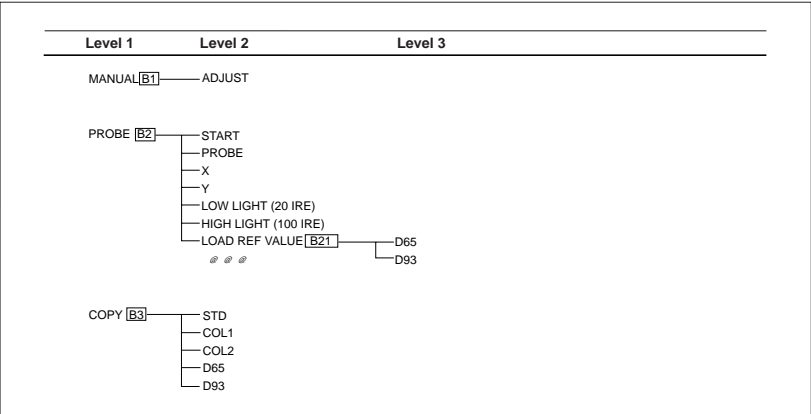
Notes

- The CRT size of the BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A is small. So, when a probe other than the Sony BKM-14L is used, use the probe closely to the CRT screen.
- After the color temperature is adjusted by automatic adjustment, carry out the AUTO adjustment of the CONTROL PRESET ADJ menu (AUTO CHROMA PHASE adjustment.)

• **Copying other color temperature data (COPY menu)**

You can copy the memorized color temperature data (STD/COL1/COL2/D65/D93.) Use the factory setting value or the adjusted value as an original value to shorten the adjustment time.

Structure of the COLOR TEMP ADJ Menu



[B] Adjusting the Color Temperature — COLOR TEMP ADJ Menu

Setting Lists in the COLOR TEMP ADJ Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see “About menu numbers” on page 26(E).
- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[B] COLOR TEMP ADJ menu

Select the adjustment method.
MANUAL... : Set with the MANUAL adjustment knob. ⇒ **[B1]**
PROBE... : Set using a probe. ⇒ **[B2]**
COPY... : Copy data from elsewhere. ⇒ **[B3]**

[B1] MANUAL menu

Adjust the gain and bias with the MANUAL adjustment knob.
ADJUST... : Adjust the gain and bias. To shift between gain adjustment and bias adjustment, press UP/DOWN buttons. Use appropriate knobs in each adjustment as described below. After the adjustment, press the ENTER or Ent button to confirm the adjusted values.
RED: CONTRAST KNOB (Adjust the R gain or bias with the CONTRAST knob.)
GREEN: BRIGHT KNOB (Adjust the G gain or bias with the BRIGHT knob.)
BLUE: CHROMA KNOB (Adjust the B gain or bias with the CHROMA knob.)
LUMINANCE: PHASE KNOB (Adjust luminance with the PHASE knob.)

To reset RED/GREEN/BLUE to the value before adjustment

When you are adjusting the gain or bias using the MANUAL adjustment knobs, you can reset the setting to the one before adjustment by pressing the corresponding MANUAL adjustment button (BVM-D14H5U/D14H5E/D14H5A) or knob (BVM-D9H5U/D9H5E/D9H5A).
To reset all of settings at the same time, press the PHASE button or knob.

Note

You cannot reset the setting after you press the ENTER or Ent button.

To access the MANUAL menu directly

When the **[F2]** button is assigned as the short-cut key to the MANUAL menu, you can directly access the MANUAL menu that corresponds to the color temperature setting (STD/COL1/COL2) set to the image on the screen.
For details of how to assign the short-cut key, see “ [E] Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu” on page 39(E).

[B2] PROBE menu

Select the probe for color temperature adjustment.
START: Start adjustment.
PROBE: Select the probe.
X: Enter the x coordinate.
Y: Enter the y coordinate.
LOW LIGHT (20IRE): Enter the luminance (cd/m²) for low light.
HIGH LIGHT (100IRE): Enter the luminance (cd/m²) for high light.
LOAD REF VALUE: Select the standard settings of the x and y coordinates. ⇒ **[B21]**

[B21] LOAD REF VALUE

Select one of the followings:
D65: Use D65 setting (x and y coordinates and standard luminance).
D93: Use D93 setting (x and y coordinates and standard luminance).

[B3] COPY menu

Select one of followings: ⇒ The current data, which is used for adjusting, is copied.
STD: Copy STD data (factory setting: D65).
COL1: Copy COL 1 data (factory setting: D93).
COL2: Copy COL 2 data (factory setting: D65).
D65: Copy the color temperature of D65.
D93: Copy the color temperature of D93.

Note

The current data which is used for adjusting (selected in the INPUT CONFIG menu) is displayed in blue letters and you can not select it.

C Setting the Input Configuration — INPUT CONFIG Menu

Overview

You can set up to nine input channels.
Data pertaining to the input signals are set with the INPUT CONFIG menu.
When a channel number (1 to 9) is entered with the numeric keypad, it is then possible to set which input connector on the rear panel will be assigned to that channel number, and select the type of signal that will be connected.

Assigning slot and connector numbers

Set which input connector on which slot will be assigned to the current channel.

Assigning the signal type and format

The signal type and format which can be assigned to each channel number vary, depending on what adaptors are installed in the rear panel.

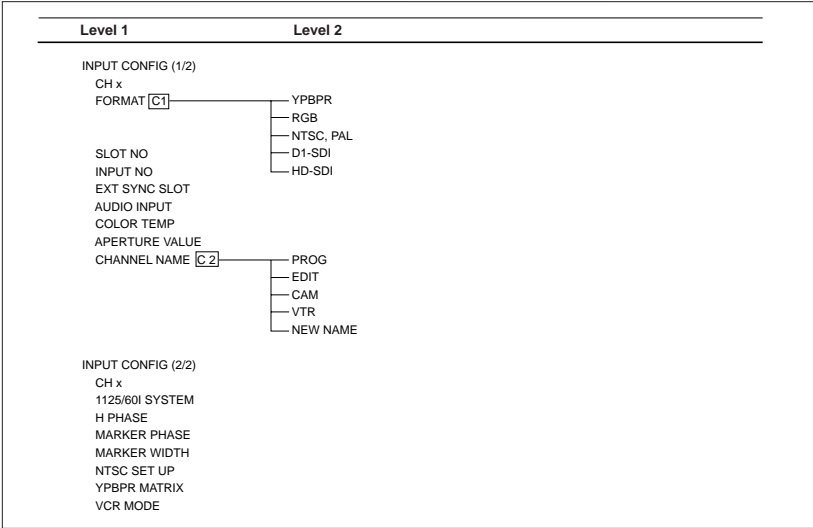
To assign D1 serial digital signals
Serial digital signals can be assigned to the slot where the BKM-120D is installed.

To assign analog composite signals
Analog composite signals can be assigned to the slot where the BKM-127W is installed.

To assign HD serial digital signals
HD serial digital signals can be assigned to the slots where the BKM-142HD is installed.

To assign analog component or RGB signals
Analog component or RGB signals can be assigned to the slot where BKM-129X is installed.

Structure of the INPUT CONFIG Menu



C Setting the Input Configuration — INPUT CONFIG Menu

Setting Lists in the INPUT CONFIG Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
- For more information about the menu number, see “About menu numbers” on page 26(E).
- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[C] (1/2) INPUT CONFIG (1/2) menu

Set input signal data for each channel.

CH x: Current channel is indicated. To change the channel, enter a channel number with the numeric keypad. The settings below will be stored as information of this channel.

FORMAT... : Select the input signal type. ⇒ [C1]

SLOT NO: Select the slot number.

INPUT NO: Select the input connector number.

EXT SYNC SLOT: Select the slot when the external sync signal is used.

AUDIO INPUT (BVM-D9H5U/D9H5E/D9H5A only): Select the audio input number.

COLOR TEMP: Select the color temperature.

APERTURE VALUE: Enter the aperture adjustment value (0 to 200).

CHANNEL NAME: Give the channel a name.
⇒ [C2]

[C] (2/2) INPUT CONFIG (2/2) menu

Set input signal data for each channel.

CH x: Current channel is indicated. To change the channel, enter a channel number with the numeric keypad. The settings below will be stored as information of this channel.

1125/60I SYSTEM: Select the number of active scanning lines per frame for 1125/60I input signals. When the HD SDI signal is input, the number of active scanning lines is selected automatically.

1035: The active scanning lines are 1035 lines.

1080: The active scanning lines are 1080 lines

H PHASE: Set the horizontal picture position (–128 to +127).

MARKER PHASE: Set the 4:3 marker position.

MARKER WIDTH: Set the 4:3 marker width.

NTSC SET UP: Set the setup level when the BKM-127W is installed. SETUP 7.5 or 0.

YPBPR MATRIX: Select the matrix when YPbPr signals of the signal format 480/60I or 480/60P (TV lines 525) are input.

VCR MODE: Compensate for a distorted picture when the input signals from the VCR are not typical. This mode is effective when the signal formats 480/60I or 575/50I are input.

ON: Operates when the signal formats 480/60I or 575/50I are input.

OFF: Does not operate.

[C1] FORMAT menu

Select the signal format.

YPBPR: Select the component signals when the BKM-129X is installed. SPMTE, BETACAM 7.5 or 0.

RGB: Select when the BKM-129X is installed.

NTSC, PAL: Selects when the BKM-127W is installed.

D1-SDI: Select when the BKM-120D is installed.

HD-SDI: Select when the BKM-142D is installed.

[C2] CHANNEL NAME menu

Give the channel a name. Enter a name after a preset one or a new one.

PROG: Program signal.

EDIT: Signal from an editor.

CAM: Camera signal.

VTR: Signal from a VTR.

NEW NAME: Enter a new name. (Up to 20 characters can be entered and up to six characters from the head of the name are displayed in the INPUT CONFIG menu ([C] 1/2).)

D Assigning the Remote Control Functions — REMOTE Menu

Overview

The remote control functions are set with the REMOTE menu. With this monitor, both serial remote control (SERIAL REMOTE) and parallel remote control (PARALLEL REMOTE) are possible.

• Settings for the serial remote control (SERIAL REMOTE)

An address number (MONITOR ADDRESS) and group number (GROUP ADDRESS) can be assigned to the monitor connected to the SERIAL REMOTE connector.

• ON/OFF setting for the parallel remote control (PARALLEL REMOTE)

• Settings for the parallel remote control (PARALLEL REMOTE)

Functions can be assigned to the pins of the PARALLEL REMOTE connector.

Priority order of the remote control functions

It is possible to simultaneously use the BKM-10R/11R Monitor Control Unit, SERIAL REMOTE, and PARALLEL REMOTE for control, but commands from PARALLEL REMOTE have priority. Therefore, it is impossible for the BKM-10R/11R or SERIAL REMOTE to change items set by PARALLEL REMOTE.

There is no priority order between commands from SERIAL REMOTE and the BKM-10R/11R control panel.

PARALLEL REMOTE [1] and [2] are connected parallel inside the unit, therefore, there is no priority order between them.

About monitor address and group numbers

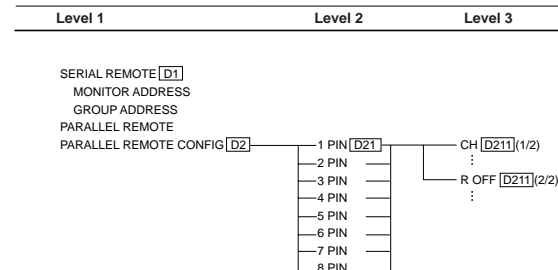
It is possible to control up to 32 monitors connected via serial remote connector (using the SERIAL REMOTE connector). By giving each monitor a monitor address and group number, it is possible to control just a specific monitor or monitor group. With the SERIAL REMOTE menu, each monitor can be set with a monitor address and group number, between 1 and 99. The ADDRESS menu is used to control the monitors which are connected by the serial remote connectors.

For information about the ADDRESS menu, see “Selecting the Monitor to Control — ADDRESS Menu” on page 45(E).

Note

The address number must differ from one monitor to another. If two or more monitors have the same address number, an operation error occurs.

Structure of the REMOTE Menu



D Assigning the Remote Control Functions — REMOTE Menu

Setting Lists of the REMOTE Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

D REMOTE menu

Select the type of remote control.

SERIAL REMOTE : Set the address and group number of the monitor controlled via the SERIAL REMOTE connector. ⇒ **D1**

PARALLEL REMOTE: Select whether parallel remote control will be used or not (ON or OFF.)

PARALLEL REMOTE CONFIG : Set the pin assignments for the PARALLEL REMOTE connector. ⇒ **D2**

D1 SERIAL REMOTE menu

Set the monitor address and group number.

MONITOR ADDRESS: Enter a number.

GROUP ADDRESS: Enter a number.

D2 PARALLEL REMOTE CONFIG menu

Select the PARALLEL REMOTE connector pins for which you want to change the function. The factory

settings for each pin are given below. ⇒ **D211**
PINs 1 to 4, and PIN 6 of the PARALLEL REMOTE **1** and **2** are common settings.

1 PIN: CH01

2 PIN: CH02

3 PIN: TALLY RED

4 PIN: TALLY GREEN

5 PIN: EXT SYNC (PARALLEL REMOTE **1**)
GND (PARALLEL REMOTE **2**)

6 PIN: UNDERSCAN

7 PIN: 16:9

8 PIN: 4:3 MARKER

Note

PINs 1 to 4, and PIN 6 of the PARALLEL REMOTE **1** and **2** are connected inside the unit, therefore different functions cannot be assigned to those pins.

D211 (1/2) 1-8 PIN menu (1/2)

Assign a function to the selected pin.

CH: Select a channel number. Enter the desired channel number with the numeric keypad.

----: Set to unused.

UNDER SCAN: Set underscan on or off.

16:9: Set a 16:9 aspect ratio on or off.

H DELAY: Set the horizontal sync display on or off.

V DELAY: Set the vertical sync display on or off.

EXT SYNC: Set the synchronization to external sync signals enabled or disabled.

APERTURE: Set the correction of frequency characteristics enabled or disabled.

MONO: Set monochrome display on or off.

BLUE ONLY: Set the blue signal pictures display (monochrome) on or off.

D211 (2/2) 1-8 PIN menu (2/2)

Assign a function to the selected pin.

R OFF: Set cutting red beams enabled or disabled.

G OFF: Set cutting green beams enabled or disabled.

B OFF: Set cutting blue beams enabled or disabled.

4:3 MARKER: Set the 4:3 marker display on or off.

CAPTION VISION: Set Caption Vision on or off.

TALLY RED: Set tally red on or off.

TALLY GREEN: Set tally green on or off.

DEGAUSS: Set degaussing on or off.

POWER OFF: Set the monitor power on or off.

For the pin assignment, see "PARALLEL REMOTE **1**/**2** connectors" in the Location and Function of Parts on page 13(E) for BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A or page 22(E) for BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A.

E Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu

Overview

The SYSTEM CONFIG menu is displayed on the two pages.
The SYSTEM CONFIG (1/2) menu is used for the following settings:

• Power-up condition (STANDBY MODE menu)

This menu sets the condition of the monitor when the MAIN POWER switch on the rear panel is switched on (BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A) or when the battery is installed (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A.)

• Power-up input channel (DEFAULT CH menu)

This menu sets the power-up input channel.

• Time from power-up until degauss (DEGAUSS DELAY menu)

If several monitors are turned on at the same time and all start degaussing at the same time, there will be a very large current draw on the power supply for a few moments. To prevent this, the delay time between power-up and degaussing can be set for each monitor independently.

• Setting of the contrast and brightness after adjusting the white balance (CONT/BRT HOLD menu)

Selects if the adjusted contrast and brightness are retained or they are reset to the center values, when the color temperature is adjusted in the COLOR TEMP ADJ menu.

• Assigning shortcut to the COLOR TEMP ADJ menu to the **F2** key (COL TEMP SHORT-CUT menu)

Assigns the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu to the **F2** key. This allows you to jump directly to the MANUAL menu corresponding to the color temperature set to the currently displayed image (STD/COL 1/COL 2.)

• Auto color control (ACC SW menu) (when using the BKM-127W)

Selects if the ACC (Auto Color Control) circuit is turned on or off.

• Selecting the monitor to copy the original data (CONFIG COPY menu)

Setting data of the INPUT CONFIG and SYSTEM CONFIG (except the DEGAUSS DELAY data) menus can be copied from the serial connected

monitor.

The SYSTEM CONFIG (2/2) menu is used for the following settings:

• Display mode and position of the signal format (FORMAT DISPLAY and POSITION menus)

• Display mode and position of the channel number (CH NO and POSITION menus)

• Display mode and position of the channel name (CH NAME and POSITION menus)

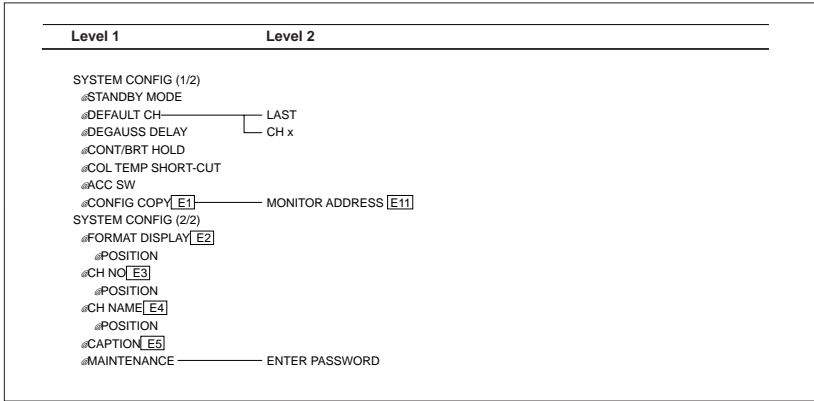
• Display mode of the caption (CAPTION menu)

• Maintenance (MAINTENANCE menu)

This is for a service qualified personnel.

E Setting the Power-Up Conditions and Data about the Screen Display — SYSTEM CONFIG Menu

Structure of the SYSTEM CONFIG Menu



Setting Lists of the SYSTEM CONFIG Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see “About menu numbers” on page 26(E).
- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.
- The factory setting is shown in the brackets.

- [E] (1/2) SYSTEM CONFIG (1/2) menu**
Set each of the following items.
- STANDBY MODE:** Select the power-up condition when the MAIN POWER switch is turned on (BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A) or when the battery is installed (BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A.)
- ON:** Standby mode
[OFF]: Operation mode
- DEFAULT CH:** Select the power-up input channel (LAST or CH x).
[LAST]: Set the channel to the channel that was selected at the time the power was last turned off.
CH x: Set the channel to a specific channel number.
- DEGAUSS DELAY:** Set the time between power-up and the beginning of degaussing. Enter the desired time (in seconds, 0 to 255).

- CONT/BRT HOLD:** Select the contrast and brightness settings to the center or adjusted value after adjusting the white balance or auto adjustment of CONTROL PRESET ADJ (OFF or ON).
ON: The contrast and brightness are set to the value before adjusting.
[OFF]: The contrast and brightness are set to the center value (100) after adjusting.
- COL TEMP SHORT-CUT:** Assign the shortcut function to the MANUAL menu of the COLOR TEMP ADJ menu to [F2] key (OFF or F2).
F2: Assigns the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu.
[OFF]: Does not assign the shortcut to the MANUAL menu of the COLOR TEMP ADJ menu.
- ACC SW:** Set the automatic color control switch (OFF or ON).
- CONFIG COPY...:** Copy setting data of the INPUT CONFIG and SYSTEM CONFIG (except the DEGAUSS DELAY data) menus from the serial connected BVM-D9H/D14H monitor. ⇒ [E11]

- [E11] MONITOR ADDRESS menu**
Set the address number of the monitor to be copied.
- [E] (2/2) SYSTEM CONFIG (2/2) menu**
Select items to be displayed on the screen.
- FORMAT DISPLAY:** Select the display mode of the signal format. ⇒ [E2] (2/2)
POSITION: Select the display position of the signal format. ⇒ [E2] (2/2)
- CH NO:** Select the display mode of the channel number. ⇒ [E3] (2/2)
POSITION: Select the display position of the channel number. ⇒ [E3] (2/2)
- CH NAME:** Select the display mode of the channel name. ⇒ [E4] (2/2)
POSITION: Select the display position of the channel name. ⇒ [E4] (2/2)
- CAPTION:** Select the caption display mode. ⇒ [E5] (2/2)
- MAINTENANCE...:** Menu for service personnel.

- [E2] (2/2) FORMAT DISPLAY and POSITION menus**
FORMAT DISPLAY menu
Select the display mode of the signal format.

- [AUTO]:** Disappears after displayed for a while.
ON: Displayed.
OFF: Not displayed.
- POSITION menu**
Select the display position.
[BOTTOM LEFT]
BOTTOM CENTER
BOTTOM RIGHT
TOP LEFT
TOP CENTER
TOP RIGHT
- [E3] (2/2) CH NO and POSITION menus**
CH NO menu
Select the display mode of the channel number.
[AUTO]: Disappears after displayed for a while.
ON: Displayed.
OFF: Not displayed.
- POSITION menu**
Select the display position.
BOTTOM LEFT
BOTTOM CENTER
[BOTTOM RIGHT]
TOP LEFT
TOP CENTER
TOP RIGHT
- [E4] (2/2) CH NAME and POSITION menus**
CH NAME menu
Select the display mode of the channel name.
[AUTO]: Disappears after displayed for a while.
ON: Displayed.
OFF: Not displayed.
- POSITION menu**
Select the display position.
BOTTOM LEFT
BOTTOM CENTER
BOTTOM RIGHT
[TOP LEFT]
TOP CENTER
TOP RIGHT
- [E5] (2/2) CAPTION menu**
Select the caption display mode.
[OFF]: Not displayed
CAPTION 1: Displayed in CAPTION 1 mode.
CAPTION 2: Displayed in CAPTION 2 mode.
TEXT 1: Displayed in TEXT 1 mode.
TEXT 2: Displayed in TEXT 2 mode.

F Displaying Information About the Monitor — STATUS Menu

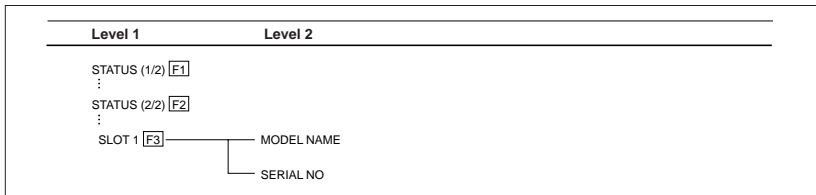
Overview

The STATUS menu is used to view general data about the monitor and information about signals assigned to the slots in the rear panel.

The following information is displayed on the two pages of the STATUS menu.

- **Data about the current channel (STATUS menu (1/2))**
- **Data about the monitor in use and data about the input adaptors installed into the slots on the rear panel (STATUS menu (2/2))**

Structure of the STATUS Menu



Setting Lists of the STATUS Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

- For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.
For more information about the menu number, see “About menu numbers” on page 26(E).
- The arrow mark (⇒) refers you to another setting list that appears after you make the setting, or to an operation that is carried out as a result of the setting. When there is no arrow mark, the menu does not have any sub-list.

[F] STATUS menu

Select the STATUS menu 1/2 or 2/2. ⇒ [F1]

[F1] STATUS (1/2) menu

Data about the current channel is displayed.

CH: channel number

SL: slot number

IN: input connector number

FORMAT: format of the input signal

NAME: channel name

[F2] STATUS (2/2) menu

Data about the monitor is displayed at the upper half of the display.

MODEL NAME: model name

SERIAL NO: serial number

OPERATION TIME: operation time (in hours)

SOFTWARE VERSION: software version

Data about the input adaptors installed into the respective slots in the rear panel is displayed at the lower half of the display.

When the BKM-129X is installed in SLOT 1, the following is displayed. When any optional boards are not installed, EMPTY is displayed for SLOT 2 and SLOT 3.

SLOT1: COMPONENT ⇒ [F3]

SLOT2: EMPTY ⇒ [F3]

SLOT3: EMPTY ⇒ [F3]

[F3] SLOT 1 to 3 menu

Select the desired slot. Data about the optional board installed in the selected slot is displayed.

MODEL NAME: Model name of that optional board

SERIAL NO: Serial number of that circuit board

G Adjusting the Position, Size and Geometry of the Picture — ALIGNMENT Menu

Overview

The ALIGNMENT menu is used for adjusting the position, size and geometry of the picture.

Structure of the ALIGNMENT Menu



Setting Lists of the ALIGNMENT Menu

This section explains the setting lists displayed in the menu.

How to read the setting lists

For purposes of explanation, each setting list is preceded by a menu number. These numbers are not displayed on the screen.

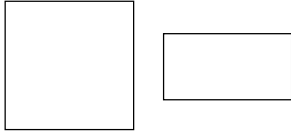
For more information about the menu number, see “About menu numbers” on page 26(E).



Adjusting the Position, Size and Geometry of the Picture — ALIGNMENT Menu

ALIGNMENT menu
Adjust the position, size or geometry of the picture with the UP and DOWN buttons or PHASE knob.

V SIZE: Adjust the height of the picture.



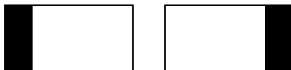
V CENTER: Adjust the vertical picture position.



H SIZE: Adjust the width of the picture.



H PHASE: Adjust the horizontal picture position.



H PIN: Correct side pincushion distortion.



H KEY: Correct trapezoid distortion.



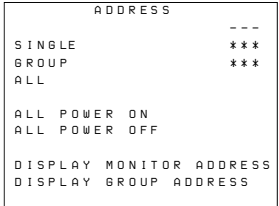
Selecting the Monitor to Control — ADDRESS Menu

Overview

When multiple monitors are connected by a serial remote connection, the ADDRESS menu is used to choose whether one particular monitor or monitor group will be controlled, or whether operations are to be performed on all monitors together.

Displaying the ADDRESS Menu

Press the ADDRESS button.
The ADDRESS menu is displayed on the screen.
By pressing the ENTER or Ent button after selecting the item, serial remote operation becomes activated.



ADDRESS Menu

Settings made with the menu items are as follows:

Item	Function
SINGLE	Controls only a specified monitor. Enter the monitor address number.
GROUP	Controls only a specified monitor group. Enter the group address number.
ALL	Controls all monitors.
ALL POWER ON	Turns all connected monitors on.
ALL POWER OFF	Turns all connected monitors off.
DISPLAY MONITOR ADDRESS	When this item is selected, each connected monitor displays its monitor address on its screen.
DISPLAY GROUP ADDRESS	When this item is selected, each connected monitor displays its group address on its screen.

Notes

- To remotely control monitors connected in serial, MONITOR ADDRESS or GROUP ADDRESS of monitors should be correctly set in the REMOTE menu.
For details of the REMOTE menu, see "[D] Assigning the Remote Control Functions – REMOTE Menu" on page 37(E).
- In GROUP or ALL mode, the LEDs of the function buttons will not light with controlled from the menu. (LEDs light only when you press the function button.)
- In GROUP or ALL mode, LEDs of controlled monitor will light as follows.

- In case of SHIFT OFF before remote control operation:** LEDs light in green when the SHIFT button is remotely set to OFF.
For details, see "SHIFT button" on page10(E) for BVM-D9H5U/D9H5E/D9H5A or on page 19(E) for BVM-D14H5U/D14H5E/D14H5A.
- In case of SHIFT ON before remote control operation:** LEDs light in amber when the SHIFT button is remotely set to ON.
For details, see "SHIFT button" on page11(E) for BVM-D9H5U/D9H5E/D9H5A or on page 20(E) for BVM-D14H5U/D14H5E/D14H5A.

(continued)

Selecting the Monitor to Control — ADDRESS Menu

Cancelling the Remote Control Mode

To cancel the remote control mode, press the ADDRESS button.

Exiting the ADDRESS Menu

To exit the ADDRESS menu, press the ADDRESS button or the MENU button.

Short-cut Function in the ADDRESS Menu

When selecting the monitor, short-cut function will enable to select the target monitor without using the items in the ADDRESS menu. The operation procedure is as follows.

To select the monitor in the SINGLE mode

- 1 Press the ADDRESS button.
- 2 Press the address number of the target monitor. Press one digit address number on the numeric keypad when it is from 1 to 9. Press three digits address number (press 0 button and then press the two-digit address number) when it is from 10 to 99.

To select the monitors in the GROUP mode

- 1 Press the ADDRESS button.
- 2 Press the F1 button.
- 3 Press the group number of the target monitor. Press one digit group address number when it is from 1 to 9. Press three digits group address number (press 0 button and then press the two-digit group number) when it is from 10 to 99.

To select all the monitors in the ALL mode

- 1 Press the ADDRESS button.
- 2 Press the F2 button.

Specifications

General

System 15.625 kHz – 45 kHz
(For details, see “Available Signal Format” on page 53(E).)

CRT
BVM-D9H1U/D9H1E/D9H1A/D9H5U/D9H5E/D9H5A

HR Trinitron, 4:3 aspect ratio
Aperture grille pitch: 0.25 mm
90 degree deflection, 21.6 mm diameter in-line gun
Effective picture size with 16:9 aspect ratio:
155.4 × 87.4 mm (6 1/8 × 3 1/2 inches) (w/h)
178 mm (7 inches) (diagonal size)
Effective picture size with 4:3 aspect ratio:
155.4 × 115 mm (6 1/8 × 4 5/8 inches) (w/h)
190.7 mm (7 1/2 inches) (diagonal size)
CRT protection: EHT (extremely high tension) protection type
Warm-up time: approx. 30 minutes
Anode voltage: 15 kV with no beam current

BVM-D14H1U/D14H1E/D14H1A/D14H5U/D14H5E/D14H5A

HR Trinitron, 4:3 aspect ratio
Aperture grille pitch: 0.25 mm
90 degree deflection, 29.4 mm diameter in-line gun
Effective picture size with 16:9 aspect ratio:
267.5 × 150.5 mm (10 5/8 × 6 inches) (w/h)
306.9 mm (12 1/8 inches) (diagonal size)
Effective picture size with 4:3 aspect ratio:
267.5 × 200.6 mm (10 5/8 × 8 inches) (w/h)
331.6 mm (13 1/8 inches) (diagonal size)
CRT protection: EHT (extremely high tension) protection type
Warm-up time: approx. 30 minutes
Anode voltage: 23 kV with no beam current

Nominal chromaticity coordinates:

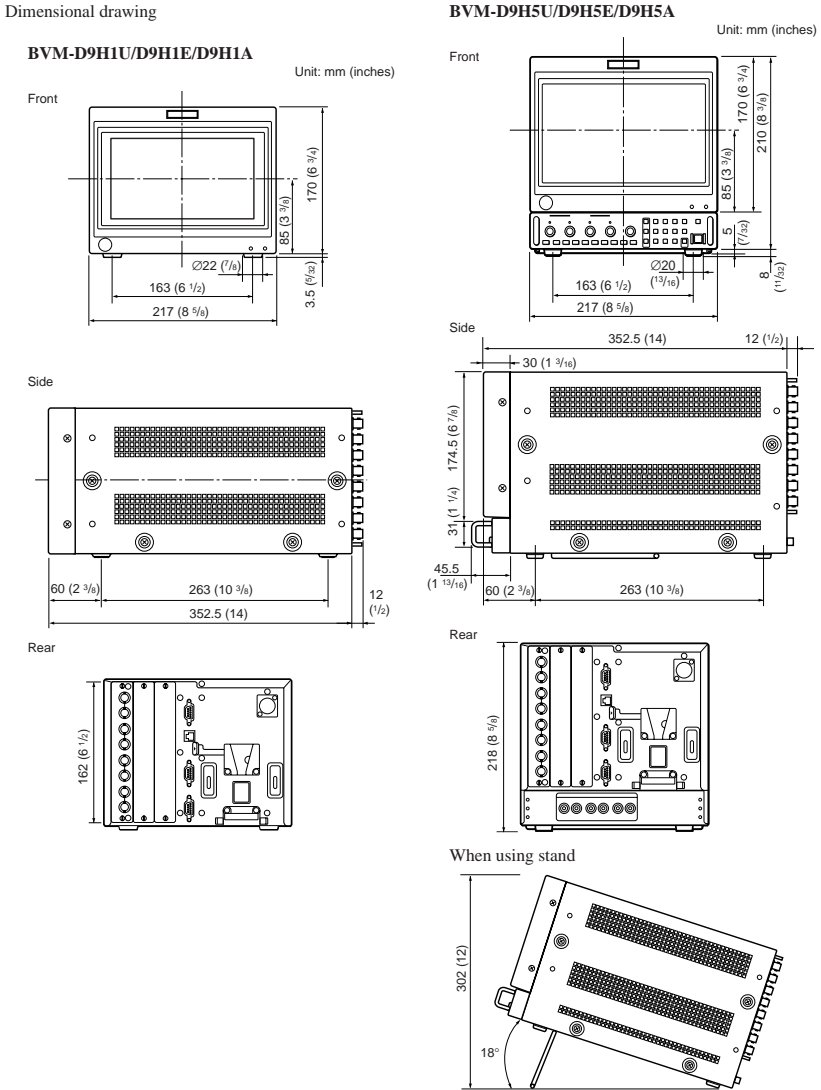
EBU phosphor		
	x	y
R	0.640	0.330
G	0.290	0.600
B	0.150	0.060

Dimensions (w/h/d)

BVM-D9H1U/D9H1E/D9H1A:
approx. 217 × 174 × 364.5mm
(8 5/8 × 6 7/8 × 14 3/8 inches)
when the AC adaptor is installed:
approx. 217 × 174 × 419.5mm
(8 5/8 × 6 7/8 × 16 5/8 inches)
BVM-D9H5U/D9H5E/D9H5A:
approx. 217 × 218 × 364.5mm
(8 5/8 × 8 5/8 × 14 3/8 inches)
when the AC adaptor is installed:
approx. 217 × 218 × 419.5mm
(8 5/8 × 8 5/8 × 16 5/8 inches)
BVM-D14H1U/D14H1E/D14H1A:
approx. 346 × 280 × 519mm
(13 5/8 × 11 1/8 × 20 1/2 inches)
BVM-D14H5U/D14H5E/D14H5A:
approx. 482 × 280 × 519mm
(19 × 11 1/8 × 20 1/2 inches)

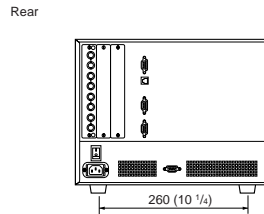
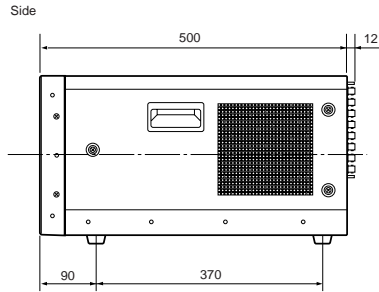
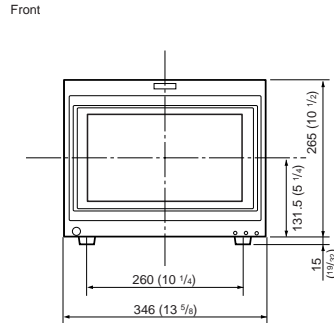
Specifications

Dimensional drawing



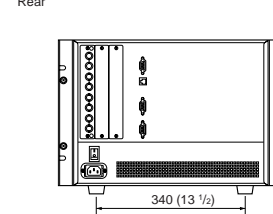
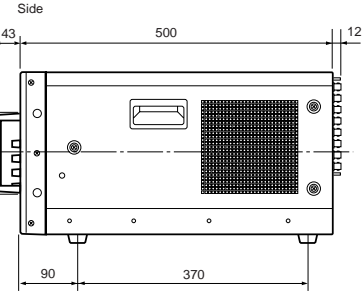
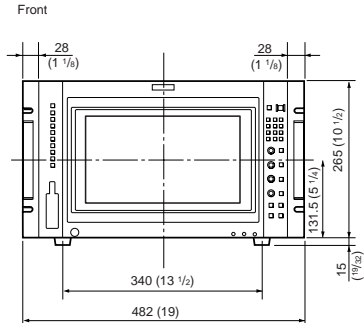
BVM-D14H1U/D14H1E/D14H1A

Unit: mm (inches)



BVM-D14H5U/D14H5E/D14H5A

Unit: mm (inches)



Specifications

Mass	BVM-D9H1U/D9H1E/D9H1A: approx. 8.1 kg (17 lb 14 oz) when the AC adaptor is installed: approx. 8.9 kg (19 lb 10 oz) BVM-D9H5U/D9H5E/D9H5A: approx. 9.3 kg (20 lb 8 oz) when the AC adaptor is installed: approx. 10.1 kg (22 lb 4 oz) BVM-D14H1U/D14H1E/D14H1A: approx. 21 kg (46 lb 5 oz) BVM-D14H5U/D14H5E/D14H5A: approx. 23 kg (50 lb 11 oz)	Power requirements BVM-D9H1U/D9H1E/D9H1A/ D9H5U/D9H5E/D9H5A: AC 100 to 240 V, 50/60 Hz, DC 12V ¹⁾ V BVM-D14H1U/D14H1E/D14H1A/ D14H5U/D14H5E/D14H5A: AC 100 to 240 V, 50/60 Hz
Power consumption	BVM-D9H1U/D9H1E/D9H1A/ D9H5U/D9H5E/D9H5A: 85 W max. (an optional BKM- 142HD or BKM-120D is installed) 60 W typical (the supplied analog component input adaptor is installed) BVM-D14H1U/D14H1E/D14H1A/ D14H5U/D14H5E/D14H5A: 115 W max. (an optional BKM- 142HD or BKM-120D is installed) 100 W typical (the supplied analog component input adaptor is installed)	Input/output connectors Video input/output BNC type × 3 (with loop-through outputs, 75-ohm automatic termination) R/G/B: 1 Vp-p ±6 dB, positive, high impedance Y: 1 Vp-p ±6 dB, high impedance Pb/Pr: 0.7 Vp-p ±6 dB, high impedance Sync input/output BNC type × 1 (with loop-through output, 75-ohm automatic termination) Composite sync: 0.3 to 8 Vp-p, positive/negative tri-level sync signal input or negative bi-level sync signal input, high impedance Return loss More than 40 dB (10 MHz, with 75-ohm termination) Remote control OPTION: Mini-DIN 8-pin × 1 CONTROL UNIT: D-sub 9-pin × 1 (BVM-D9H1U/ D9H1E/D9H1A ¹⁾ , BVM- D14H1U/D14H1E/D14H1A only) PARALLEL REMOTE [1]: D-sub 9-pin × 1 PARALLEL REMOTE [2]: Modular connector 6-pin SERIAL REMOTE: D-sub 9-pin × 2 ¹⁾ (with loop-through output) Audio input (BVM-D9H5U/D9H5E/D9H5A only) Phono jack × 3 (with loop-through output)
Peak inrush current	(1) Power ON, current probe method: 80 A (240 V) (BVM- D9H1U/D9H1E/D9H1A/ D9H5U/D9H5E/D9H5A), 45 A (240 V) (BVM-D14H1U/ D14H1E/D14H1A/D14H5U/ D14H5E/D14H5A) (2) Hot switching inrush current, measured in accordance with European standard EN55103-1: 10 A (230 V) (BVM-D9H1U/D9H1E/D9H1A/ D9H5U/D9H5E/D9H5A), 20 A (230 V) (BVM-D14H1U/ D14H1E/D14H1A/D14H5U/ D14H5E/D14H5A)	

1) BVM-D9H1U/D9H1E/D9H1A is switched to REMOTE
or CTRL UNIT with the select switch.

50 (E)

Video signal	Frequency response 575/50I, 480/60I component inputs BVM-D9H1U/D9H1E/D9H1A/ D9H5U/D9H5E/D9H5A/ D14H1U/D14H1E/D14H1A/ D14H5U/D14H5E/D14H5A: 50Hz to 10MHz (0 dB/−3 dB) Models other than the above or RGB inputs BVM-D9H1U/D9H1E/D9H1A/ D9H5U/D9H5E/D9H5A: 48 Hz to 17 MHz, (1 dB/−3 dB) BVM-D14H1U/D14H1E/ D14H1A/D14H5U/D14H5E/ D14H5A: 48 Hz to 24 MHz, (0 dB/−3 dB) Aperture compensation ²⁾ OFF: 0 dB ON: 2 dB to 6 dB 575/50I, 480/60I inputs: 5 MHz Input other than the above: 16 MHz	Convergence error Within a central area bounded by a circle with a diameter equal to the picture height. Less than 0.4 mm with a central area bounded by a circle and less than 0.7 mm at any other point.
		Standard luminescence 120 cd/m ² (at standard 1 Vp-p 100% white signal)
		Raster size stability Less than 1% of picture height (at 120 cd/m ² peak luminescence, 10 to 90% APL)
		Resolution (at screen center, 120 cd/m ² luminescence) BVM-D9H1U/D9H1E/D9H1A/ D9H5U/D9H5E/D9H5A: 340 TV lines (16:9) 450 TV lines (4:3) BVM-D14H1U/D14H1E/D14H1A/ D14H5U/D14H5E/D14H5A: 600 TV lines (16:9) 800 TV lines (4:3)
Picture performance	Normal scan Underscan Linearity Color temperature	Operating conditions Temperature 0°C to 35°C (32°F to 95°F) Optimum temperature 20°C to 30°C (68°F to 86°F) Humidity 0% to 90% (no condensation) Pressure 700 hPa to 1060 hPa Storage and transport conditions Temperature −10°C to 40°C (14°F to 104°F) Humidity 0% to 90% Pressure 700 hPa to 1060 hPa

2) The aperture cannot be compensated for RGB input signals.

51 (E)

Specifications

Accessories supplied

- AC power cord (1)
- AC adaptor (1) (BVM-D9H1U/D9H1E/D9H1A/
D9H5U/D9H5E/D9H5A only)
- AC plug holder (1)
- Tally plate (1)
- 4:3 mask (1)
- Operation manual (1)

Acquired safety regulations

- UL1950, CSA950
- FCC Class A, IC Class A
- DHHS, DNHW
- TÜV (EN60950), PTB
- CE-Marking, C-tick Mark

Design and specifications are subject to change without notice.

Available Signal Format

System	Total lines per frame	Active lines per frame	** Frame rate (Hz)	Scanning format	Aspect	Standard
575/50I (*PAL)	625	575	25	2:1 interlace	16:9/4:3	ITU 601
480/60I (*NTSC)	525	483	30	2:1 interlace	16:9/4:3	ITU 601
575/50P	625	575	50	Progressive	16:9/4:3	—
480/60P	525	483	60	Progressive	16:9/4:3	SMPTE 293M
1080/48I	1125	1080	24	2:1 interlace	16:9	—
1080/50I	1125	1080	25	2:1 interlace	16:9	SMPTE 294M
1035/60I	1125	1035	30	2:1 interlace	16:9	BTA S-001B
1080/60I	1125	1080	30	2:1 interlace	16:9	SMPTE 274M/BTA S-001B
720/60P	750	720	60	Progressive	16:9	SMPTE 296M

* Available when the optional adaptor is installed.
** Also compatible with 1/1,001.

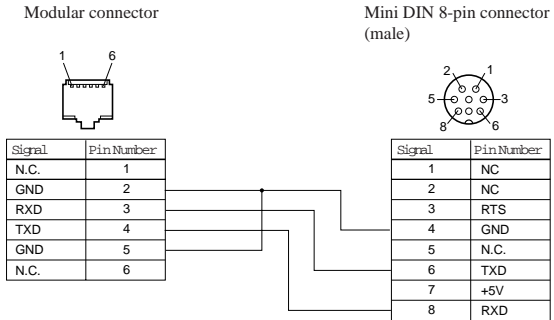
Specifications

Connection Cable Specifications for Color Temperature Probes

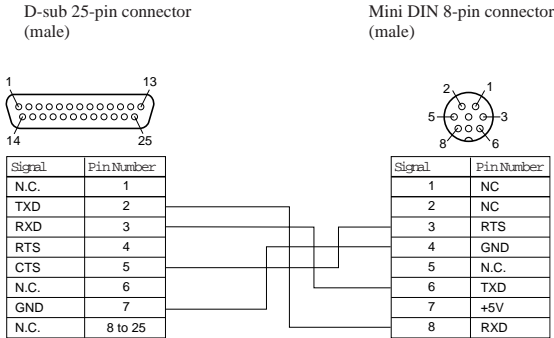
Special cables are required to connect color temperature probes other than the Sony BKM-14L to the monitor.

The following diagrams show specifications and pin assignments for the required cables.

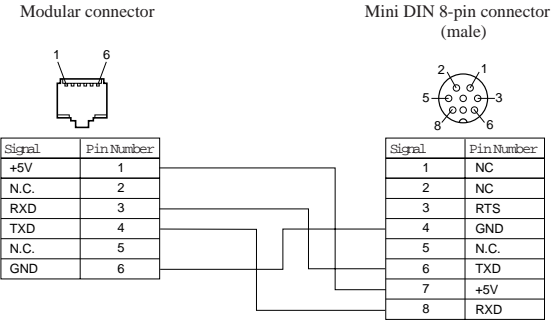
Connection cable for GRASEBY SLS 9400 probe



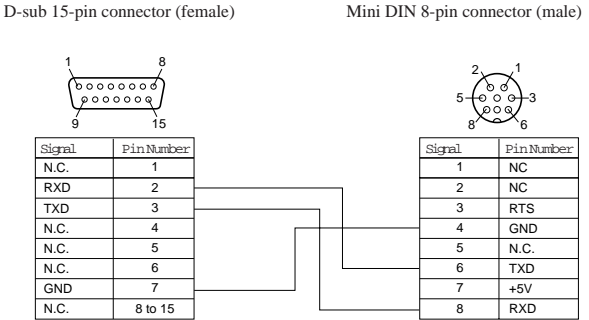
Connection cable for MINOLTA CA-100 probe



Connection cable for PHILIPS PM 5639 probe (corresponds to PHILIPS PM 5639/64 cable)



Connection cable for THOMA TF6 probe



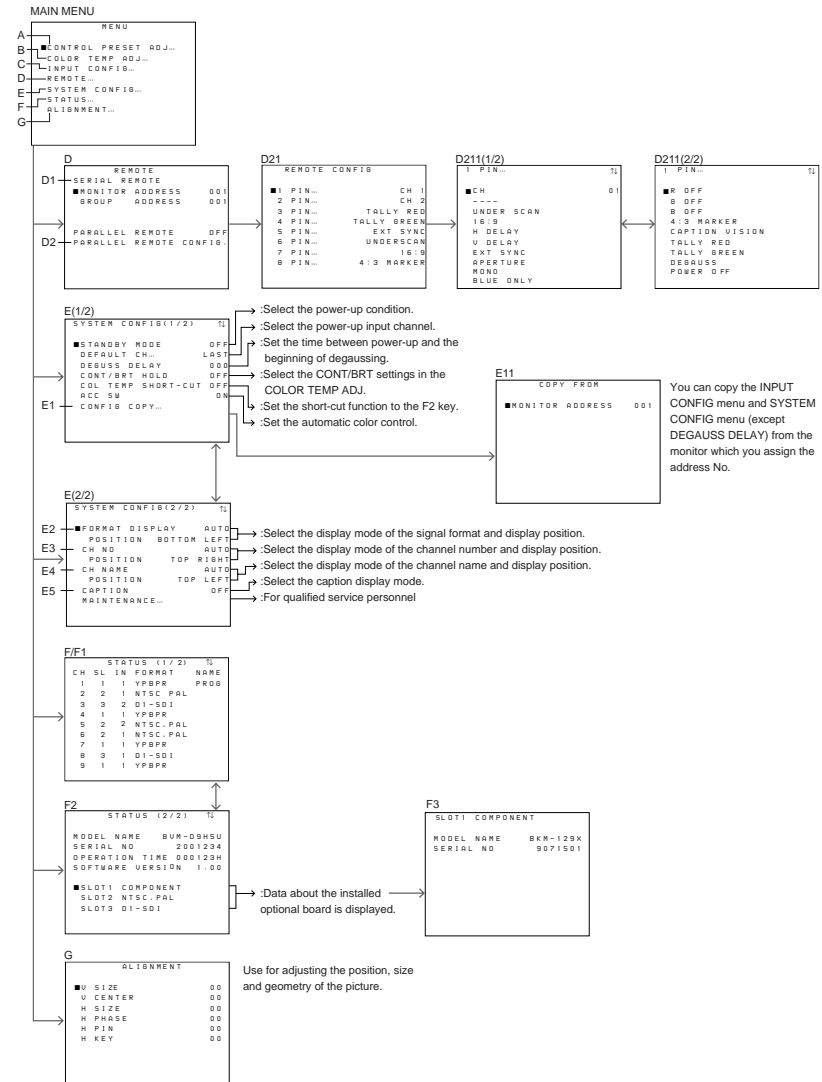
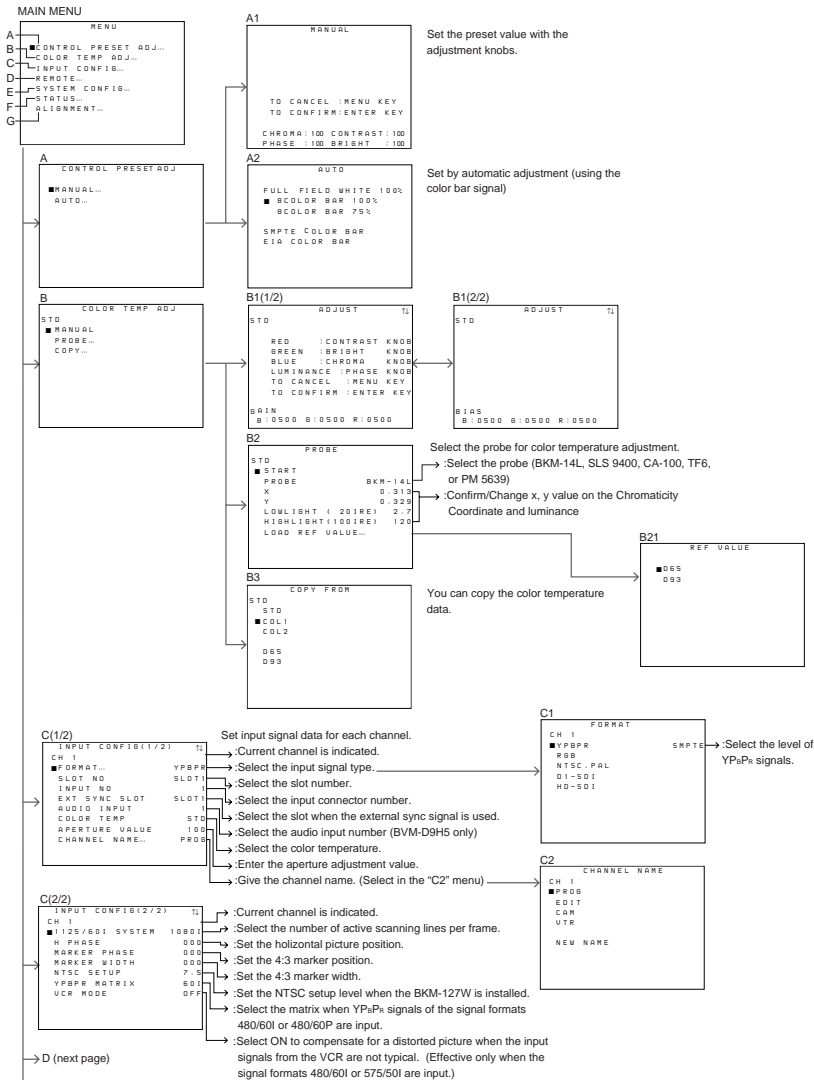
Menu Index

The menu index shows the menu items provided with this monitor in alphabetical order. For your reference, each menu item is followed by the page of this manual on which the item is explained, its menu number, and the Main Menu that the item belongs to.

Menu Item	Page	Menu number	Main menu
A ACC SW	41(E)	—	SYSTEM CONFIG menu
ADDRESS	45(E)	—	ADDRESS menu
ADJUST	34(E)	—	COLOR TEMP ADJ menu
ALIGNMENT	44(E)	[G]	ALIGNMENT menu
APERTURE VALUE	36(E)	—	INPUT CONFIG menu
AUDIO INPUT	36(E)	—	INPUT CONFIG menu
AUTO	32(E)	[A2]	CONTROL PRESET ADJ menu
B BRIGHT	32(E)	—	CONTROL PRESET ADJ menu
C CAM	36(E)	—	INPUT CONFIG menu
CAPTION	41(E)	[E5]	SYSTEM CONFIG menu
CH	38(E)	[D211]	REMOTE menu
	40(E)	—	SYSTEM CONFIG menu
CH NAME	41(E)	[E4]	SYSTEM CONFIG menu
CH NO	41(E)	[E3]	SYSTEM CONFIG menu
CHANNEL NAME	36(E)	[C2]	INPUT CONFIG menu
CHROMA	32(E)	—	CONTROL PRESET ADJ menu
COL TEMP SHORT-CUT	41(E)	—	SYSTEM CONFIG menu
COL1	34(E)	—	COLOR TEMP ADJ menu
COL2	34(E)	—	COLOR TEMP ADJ menu
COLOR TEMP	36(E)	—	INPUT CONFIG menu
COLOR TEMP ADJ	33(E)	[B]	COLOR TEMP ADJ menu
CONFIG COPY	41(E)	[E1]	SYSTEM CONFIG menu
CONTR/BRT HOLD	41(E)	—	SYSTEM CONFIG menu
CONTRAST	32(E)	—	CONTROL PRESET ADJ menu
CONTROL PRESET ADJ	31(E)	[A]	CONTROL PRESET ADJ menu
COPY	34(E)	[B3]	COLOR TEMP ADJ menu
D D1-SDI	36(E)	—	INPUT CONFIG menu
D65	34(E)	—	COLOR TEMP ADJ menu
D93	34(E)	—	COLOR TEMP ADJ menu
DEFAULT CH	40(E)	—	SYSTEM CONFIG menu
DEGAUSS DELAY	40(E)	—	SYSTEM CONFIG menu
E EDIT	36(E)	—	INPUT CONFIG menu
EIA COLOR BAR	32(E)	—	CONTROL PRESET ADJ menu
ENTER PASSWORD	40(E)	—	SYSTEM CONFIG menu
EXT SYNC SLOT	36(E)	—	INPUT CONFIG menu
F FORMAT	36(E)	[C1]	INPUT CONFIG menu
FORMAT DISPLAY	41(E)	[E2]	SYSTEM CONFIG menu
FULL FIELD WHITE 100 %	31(E)	—	CONTROL PRESET ADJ menu
G GROUP ADDRESS	38(E)	—	REMOTE menu
H H KEY	44(E)	—	ALIGNMENT menu
H SIZE	44(E)	—	ALIGNMENT menu
H PHASE	36(E)	—	INPUT CONFIG menu
	44(E)	—	ALIGNMENT menu
H PIN	44(E)	—	ALIGNMENT menu
HD-SDI	36(E)	—	INPUT CONFIG menu
HIGH LIGHT	34(E)	—	COLOR TEMP ADJ menu
I INPUT CONFIG	35(E)	[C]	INPUT CONFIG menu
INPUT NO	36(E)	—	INPUT CONFIG menu
L LAST	40(E)	—	SYSTEM CONFIG menu
LOAD REF VALUE	34(E)	[B21]	COLOR TEMP ADJ menu
LOW LIGHT	34(E)	—	COLOR TEMP ADJ menu

Menu Item	Page	Menu number	Main menu
M MAINTENANCE	40(E)	[E5]	SYSTEM CONFIG menu
MANUAL	32(E)	[A1]	CONTROL PRESET ADJ menu
	34(E)	[B1]	COLOR TEMP ADJ menu
MARKER PHASE	38(E)	—	INPUT CONFIG menu
MARKER WIDTH	38(E)	—	INPUT CONFIG menu
MODEL NAME	42(E)	—	STATUS menu
MONITOR ADDRESS	38(E)	—	REMOTE menu
	41(E)	[E11]	SYSTEM CONFIG menu
N NEW NAME	36(E)	—	INPUT CONFIG menu
NTSC, PAL	36(E)	—	INPUT CONFIG menu
NTSC SET UP	36(E)	—	INPUT CONFIG menu
P PARALLEL REMOTE	38(E)	—	REMOTE menu
PARALLEL REMOTE CONFIG	38(E)	[D2]	REMOTE menu
PHASE	32(E)	—	CONTROL PRESET ADJ menu
POSITION	41(E)	—	SYSTEM CONFIG menu
PROBE	34(E)	—	COLOR TEMP ADJ menu
PROG	36(E)	—	INPUT CONFIG menu
R REMOTE	37(E)	[D]	REMOTE menu
RGB	35(E)	—	INPUT CONFIG menu
R OFF	38(E)	[D211]	REMOTE menu
S SERIAL NO	42(E)	—	STATUS menu
SERIAL REMOTE	38(E)	[D1]	REMOTE menu
SLOT 1	42(E)	[F3]	STATUS menu
SLOT NO	36(E)	—	INPUT CONFIG menu
SMPT COLOR BAR	32(E)	—	CONTROL PRESET ADJ menu
STANDBY MODE	40(E)	—	SYSTEM CONFIG menu
START	34(E)	—	COLOR TEMP ADJ menu
STATUS	42(E)	[F]	STATUS menu
STD	34(E)	—	COLOR TEMP ADJ menu
SYSTEM CONFIG	39(E)	[E]	SYSTEM CONFIG menu
V V CENTER	44(E)	—	ALIGNMENT menu
V SIZE	44(E)	—	ALIGNMENT menu
VTR	36(E)	—	INPUT CONFIG menu
X X	34(E)	—	COLOR TEMP ADJ menu
Y Y	34(E)	—	COLOR TEMP ADJ menu
YPBPR	36(E)	—	INPUT CONFIG menu
YPBPR MATRIX	36(E)	—	INPUT CONFIG menu
1 1125/60i SYSTEM	36(E)	—	INPUT CONFIG menu
1 PIN	38(E)	[D21]	REMOTE menu
2 2 PIN	38(E)	—	REMOTE menu
3 3 PIN	38(E)	—	REMOTE menu
4 4 PIN	38(E)	—	REMOTE menu
5 5 PIN	38(E)	—	REMOTE menu
6 6 PIN	38(E)	—	REMOTE menu
7 7 PIN	38(E)	—	REMOTE menu
8 8COLOR BAR 100%	32(E)	—	CONTROL PRESET ADJ menu
8COLOR BAR 75%	32(E)	—	CONTROL PRESET ADJ menu
8 PIN	38(E)	—	REMOTE menu

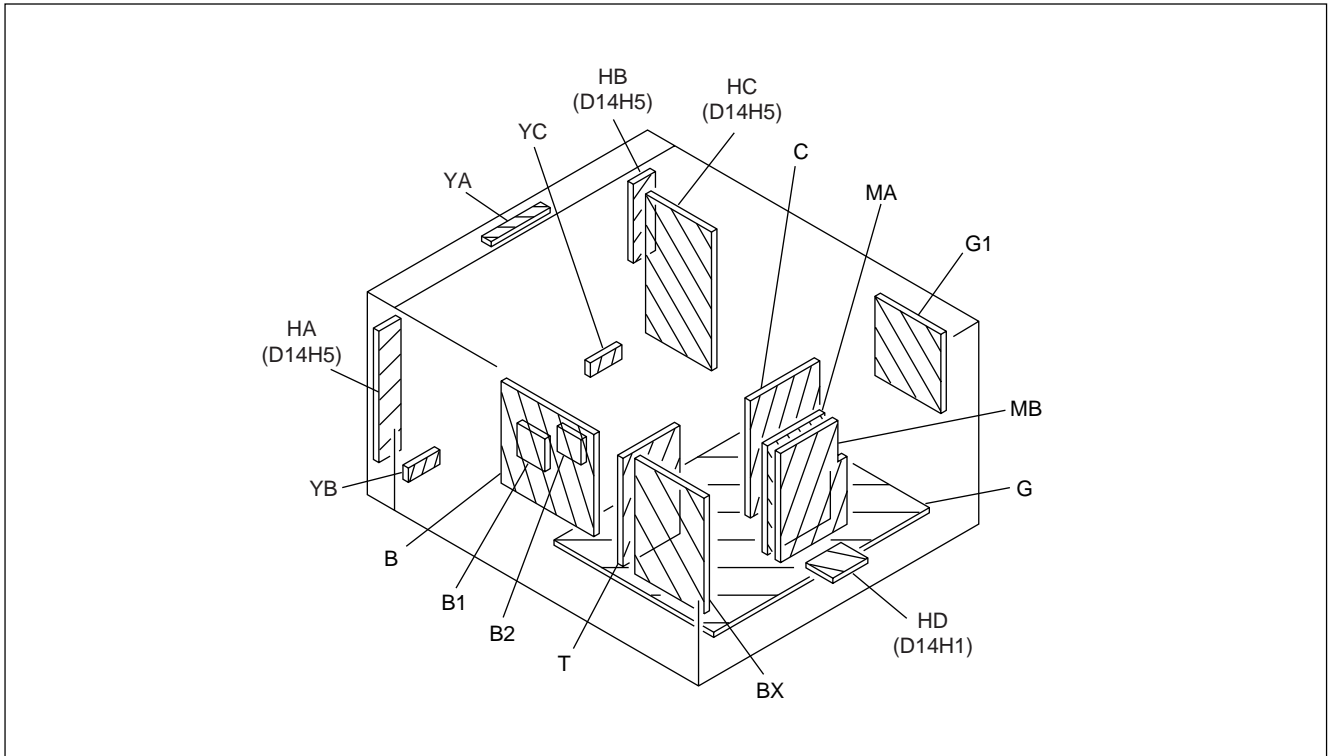
Menu Configuration



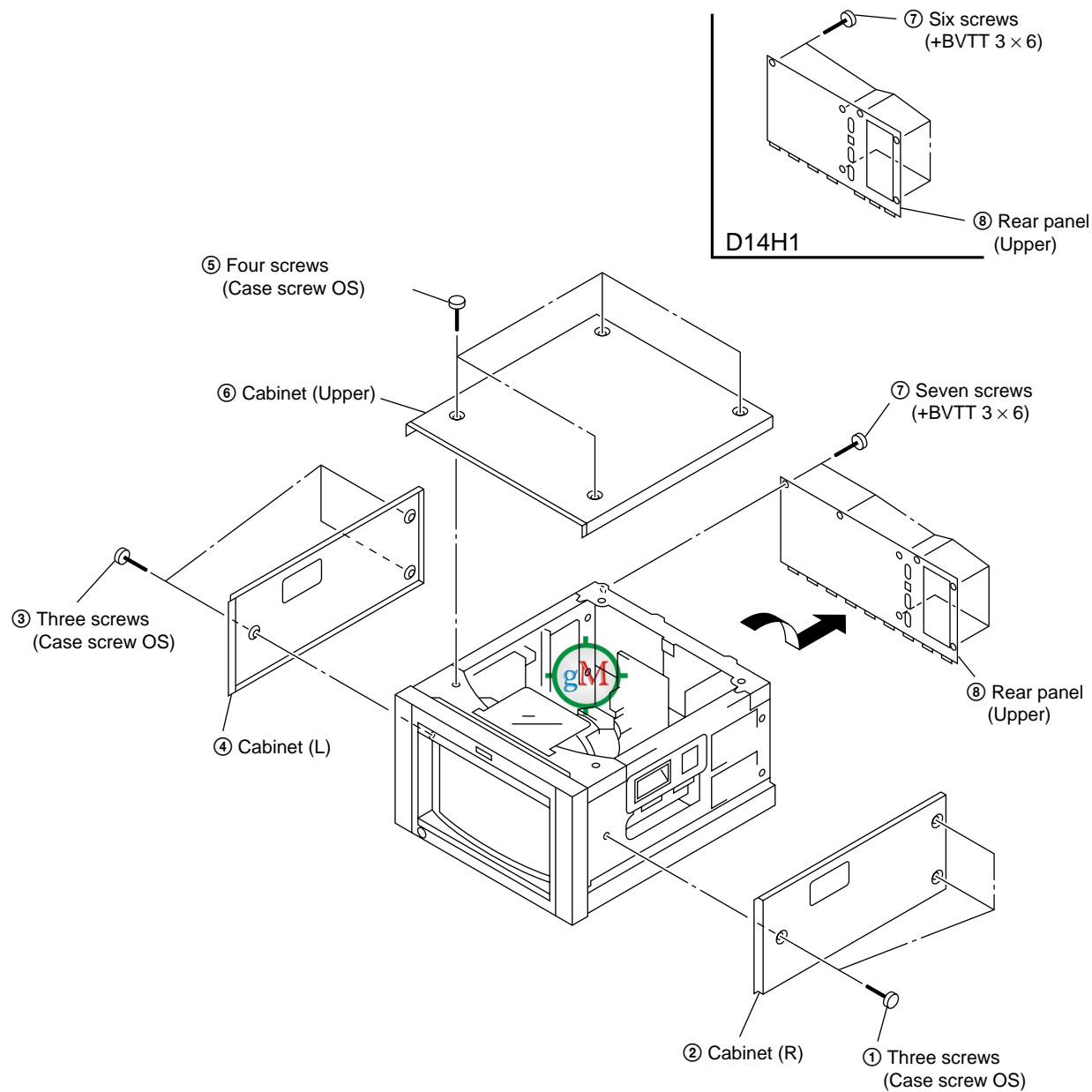
Section 2

Service Informations

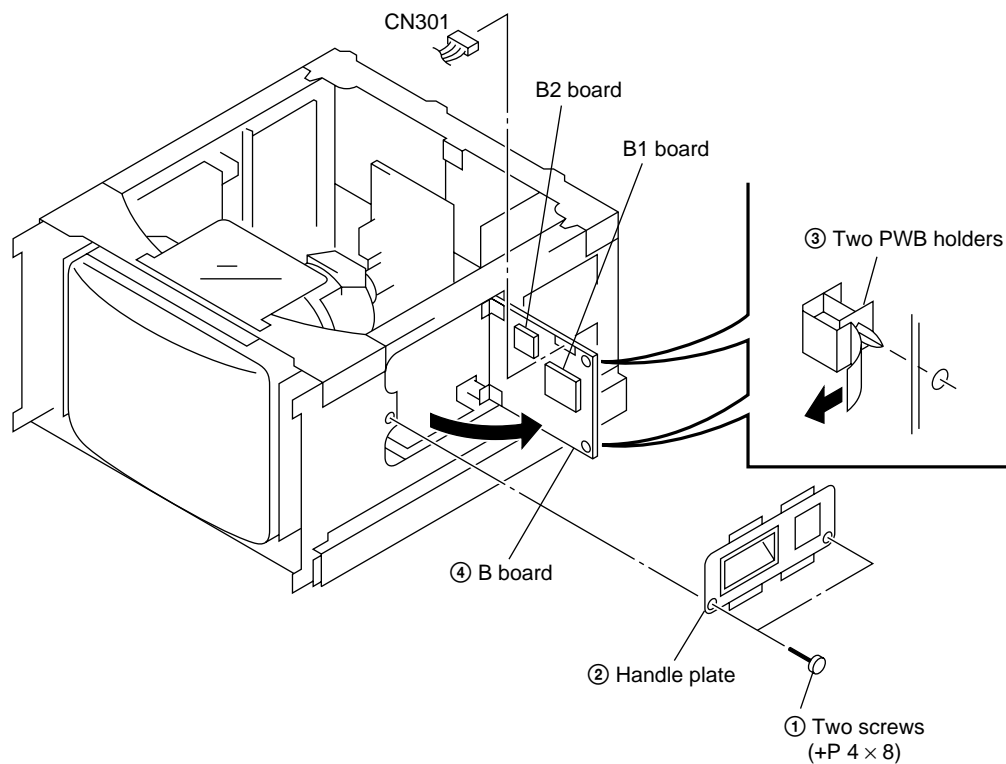
2-1. Circuit Boards Location



2-2-1. Cabinet and Rear Panel Removal

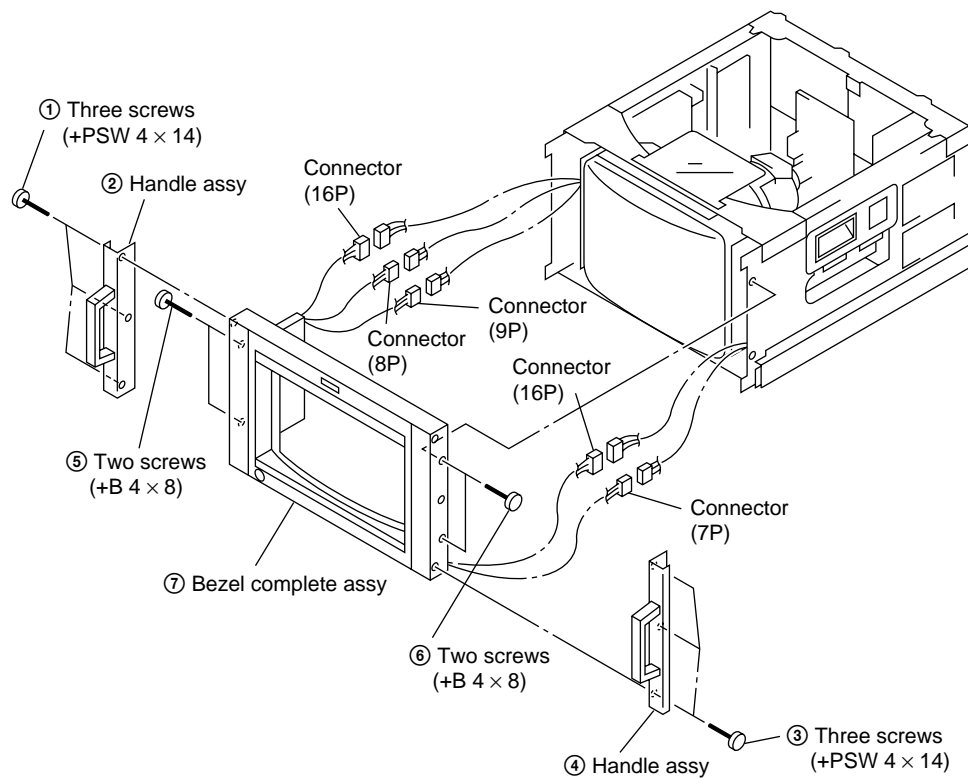


2-2-2. How To Open The B Board

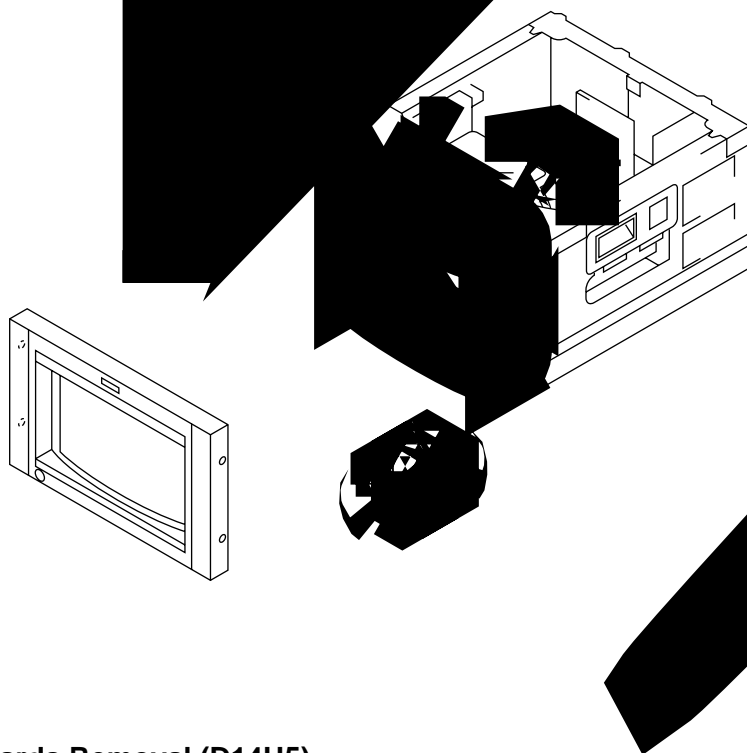


2-2-3. Bezel Complete Assy Removal

(1) D14H5

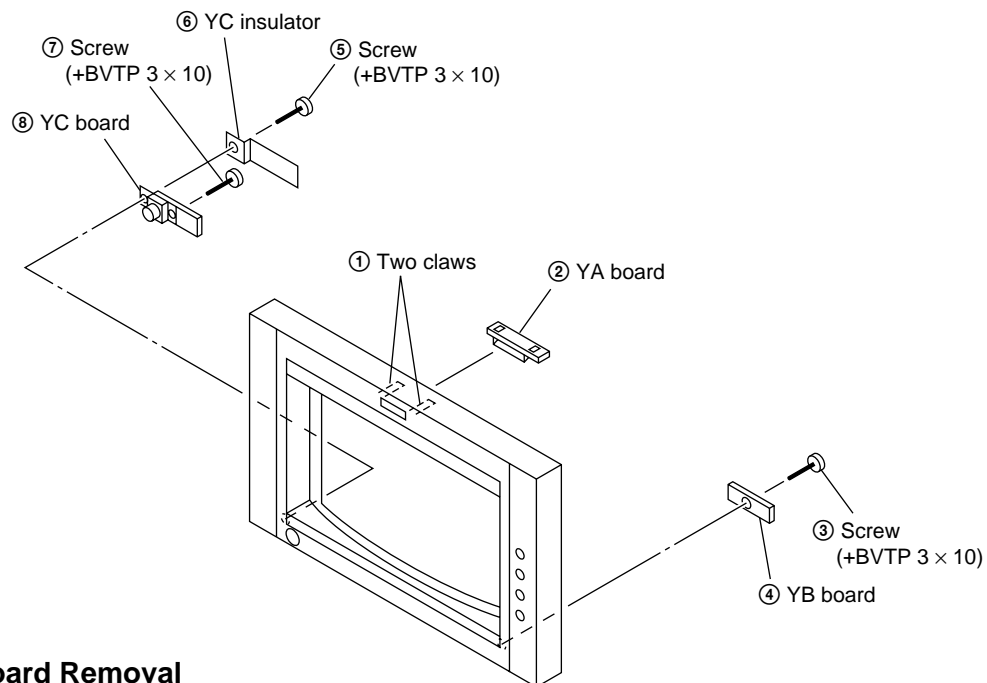


(2) D14H1

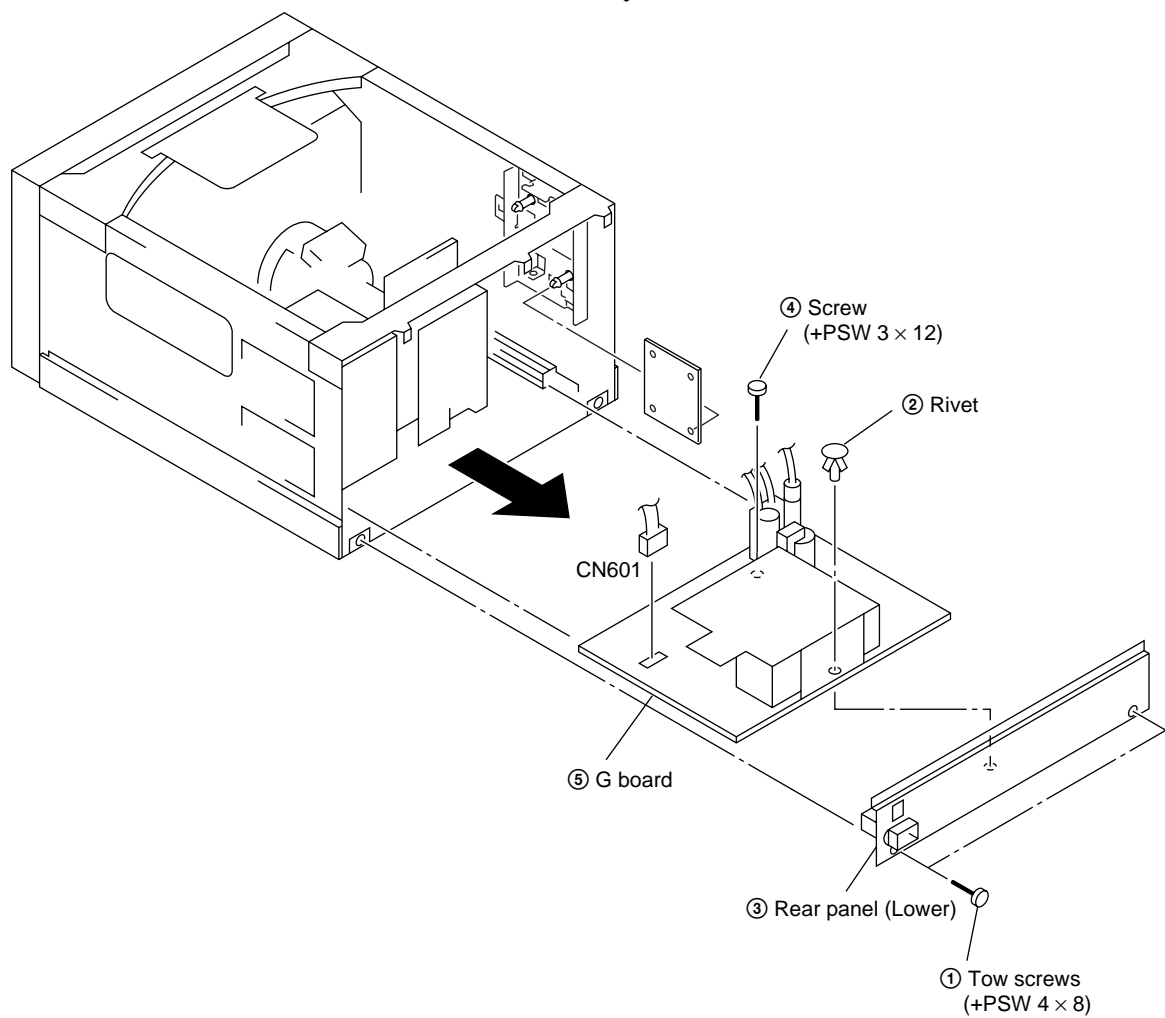


2-2-4. HA, HB and HC Boards Removal (D14H5)

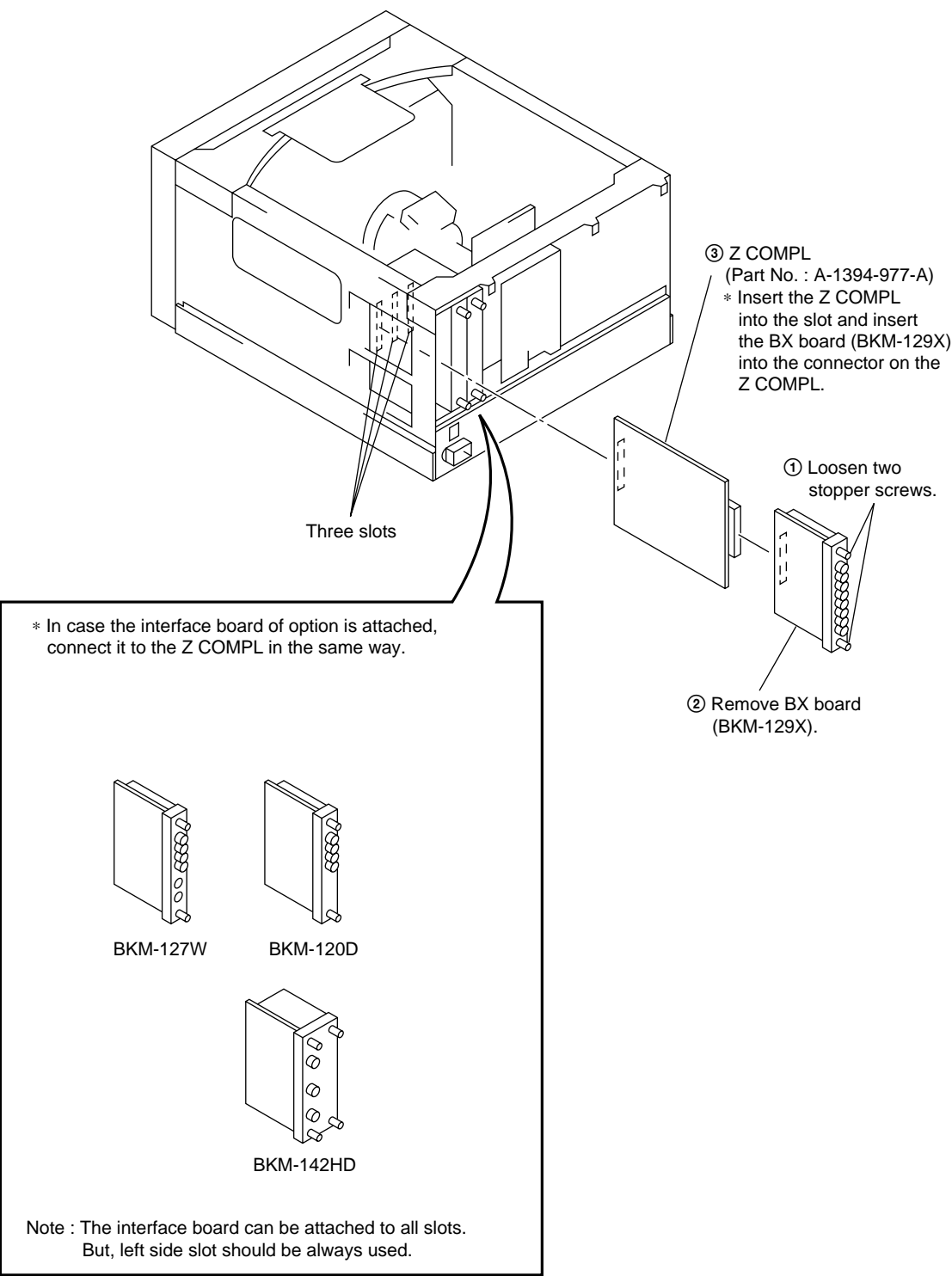
2-2-5. YA, YB and YC Boards Removal



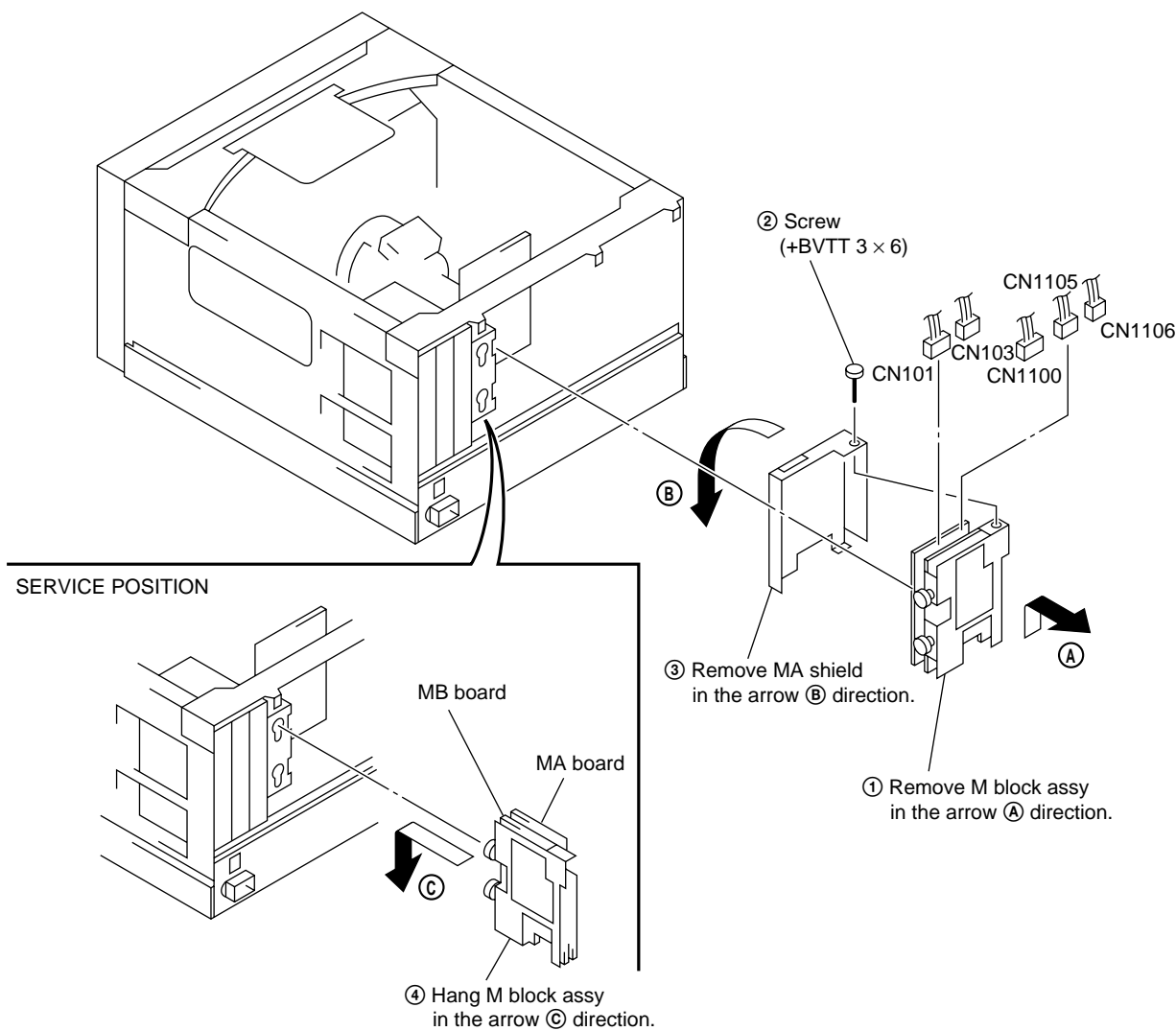
2-2-6. G Board Removal



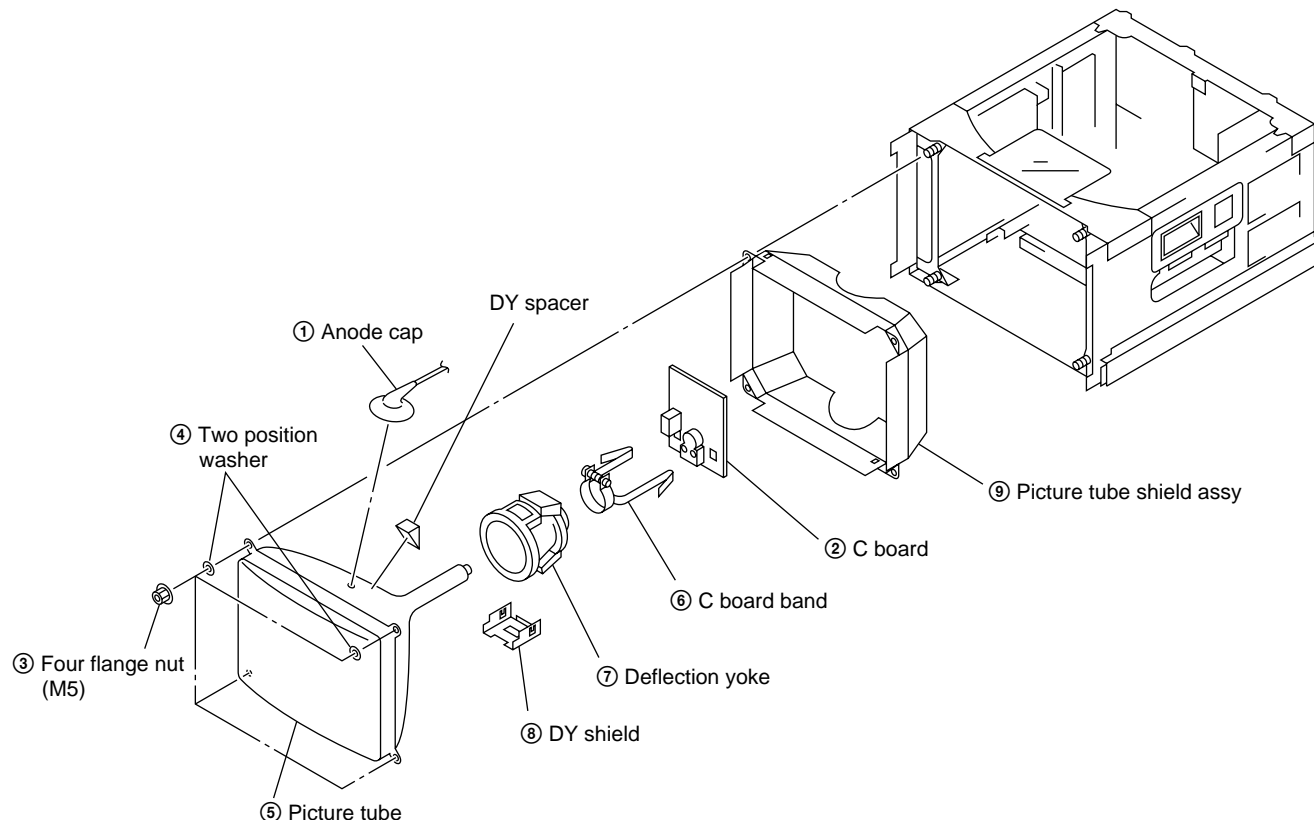
2-2-7. BX Board (BKM-129X) Removal and Check



2-2-9. M Block Assy (MA and MB Boards) Removal



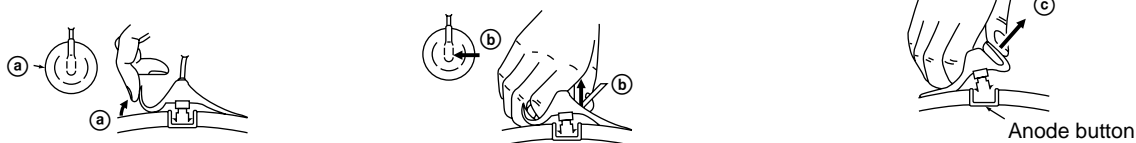
2-2-10. Picture Tube Removal



• REMOVAL OF ANODE CAP

Note: To eliminate electric shock hazard, when replacing the picture tube, short-circuit the anode of the picture tube and the high-voltage terminal of anode cap to the picture tube shield or carbon painted on the picture tube, after removing the anode.

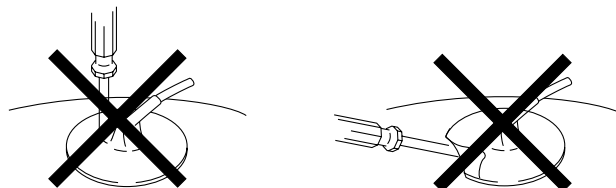
• Removal Procedure



- (1) Turn up one side of the rubber cap in the direction indicated by arrow (a).
- (2) Using a thumb, pull up the rubber cap firmly in the direction indicated by arrow (b).
- (3) When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow (c).

• Handling Precautions

- (1) Do not scratch the surface of anode cap with a sharp object.
- (2) Do not press the rubber so hard that it damages the inside of anode caps. A shatter-hook terminal is built into the rubber.
- (3) Do not turn the foot of the rubber over.
The shatter-hook terminal will stick out or damage the rubber.



Section 3

Set-Up Adjustments

3-1. Set-Up Adjustment When CRT is Replaced

This section describes the adjustments to be performed when the CRT is replaced.

[Preparations]

- Required tools and measuring instruments

1. Signal generator

YPB/YPR signal generator

- 1080/60i (1125) : SMPTE 274M standard/
BTA S-001 standard
- 1035/60i (1125) : BTA S-001 standard
- 720/60p : SMPTE 296M standard
- 480/60p (525P) : SMPTE 293M standard
- 480/60i (525) : ITU601
- 1080/48i (1125) : —
- 1080/50i (1125) : SMPTE 274M standard
- 720/50p : —
- 575/50p (625P) : —
- 575/50i (625) : ITU601

NTSC analog composite signal generator

HD SDI signal generator

D1 SDI signal generator

2. BKM-127W (NTSC/PAL input adapter)
3. BKM-142HD (HD SDI input adapter)
4. BKM-120D (D1 SDI input adapter)
5. Oscilloscope
6. Luminance meter
7. Color analyzer (Minolta CA-100)
8. Cable of the following specifications to connect the RS-232C terminal of the CA-100 and the OPTION terminal of the monitor.

- Setting the INPUT CONFIGURATION menu

Set the INPUT CONFIGURATION menu of the SETUP menu as shown below unless otherwise specified.

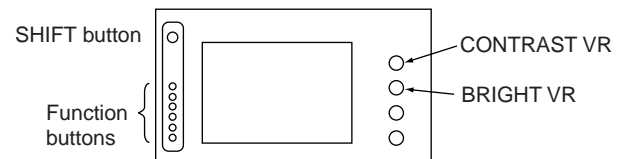
```

FORMAT ..... YPBPR
SLOT NO ..... 1
INPUT NO ..... 1
SYNC MODE ..... INT
APEATURE VALUE ..... 100
CHANNEL NAME ..... PROG
COLOR TEMP ..... STD
H PHASE ..... 000
MARKER PHASE ..... 000
MARKER WIDTH ..... 000
  
```

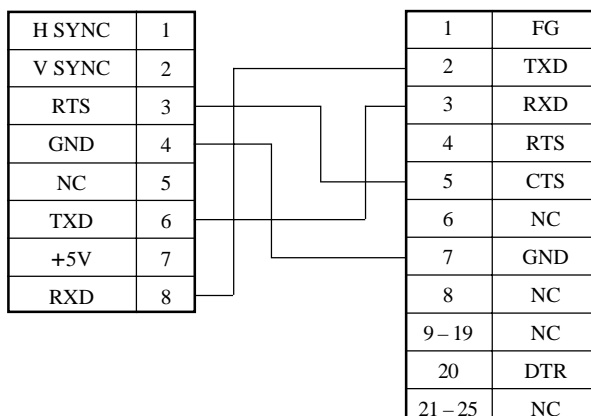
- Operate the SYSTEM CONFIG menu as follows.

Use the SYSTEM menu to select ALL SYSTEM with the RE-LOAD FACTORY DATA, and execute it.

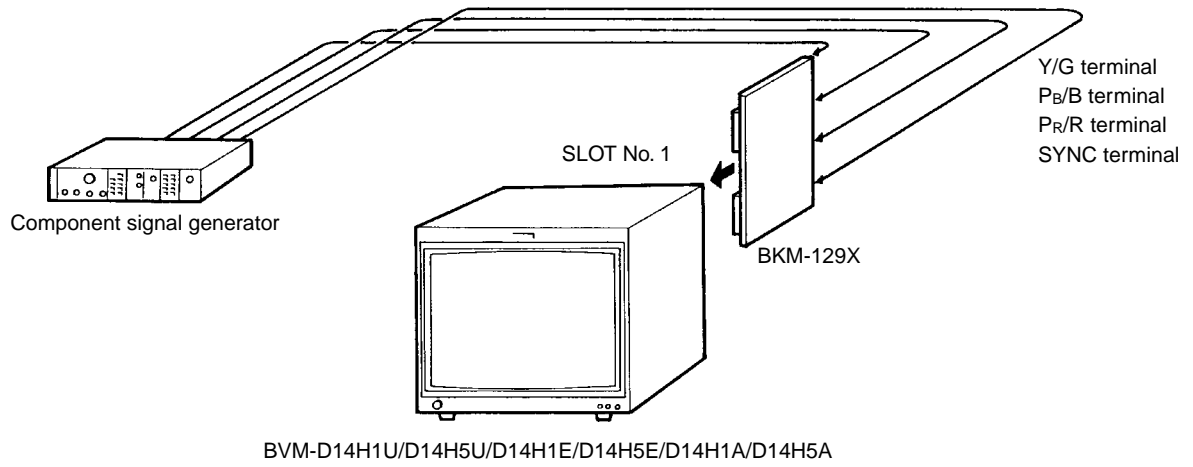
BVM-D14H1/D14H5 control panel




HDM option connector side CA-100 RS-232C connector side
Mini DIN 8-pin D Sub 25-pin (male)



- Connection diagram



[Focus Adjustment]

1. Connect the 1080/60i cross-hatch signal (see note) to the ANALOG Y/G input connector.
Note: This is the 1125 (1080) cross-hatch signal.
2. Press the SHIFT button to set the SHIFT OFF. [The LED (orange) on top of the button turns off.] Press the UNDER SCAN button () to its OFF position to select the normal mode. [The green LED turns on.]
3. Set the initial (default) value to the following DF adjustment data.

FOCUS AMP : 27

FOCUS KEY : 07

Note: This menu is located in the directory under the DEFLECTION menu of the MAINTENANCE menu.

4. Adjust the FOCUS 1 control (horizontal focus adjustment) and the FOCUS 2 control (vertical focus adjustment) until the center of the screen has the optimum focus.
5. Connect the 1080/60i monoscope signal to the ANALOG Y/G input connector.
6. Check that the horizontal resolution higher than the specifications can be recognized.

Specifications: 600 TV lines or more

7. Connect the 1080/60i cross-hatch signal to the ANALOG Y/G input connector.
8. Adjust the following DF adjustment data until the thickness of the cross-hatch lines at the corners of picture have the same thickness as those in the center of screen.

FOCUS AMP

FOCUS KEY

Note: If the uniformity is extremely poor, compromise so that the FOCUS AMP is not adjusted to the best focus but is adjusted to obtain the reasonable uniformity and good focus at the same time.

9. Copy the adjustment data that is obtained in step 8 to the MODE2 to MODE4, MODE7 to MODE10, MODE15 to MODE18, MODE21 to MODE24, MODE29 to MODE32 in this order.
10. Connect the 480/60i cross-hatch signal (see note) to the ANALOG Y/G input connector.
Note: NTSC cross-hatch signal
11. Adjust the following DF adjustment data until the thickness of the cross-hatch lines at the corners of picture have the same thickness as those in the center of screen.

FOCUS AMP

FOCUS KEY

Note: If the uniformity is extremely poor, compromise so that the FOCUS AMP is not adjusted to the best focus but is adjusted to obtain the reasonable uniformity and good focus at the same time.

12. Copy the adjustment data that is obtained in step 11 to the MODE11, MODE12, MODE14 and MODE25 to MODE28 in this order.
13. Connect the 720/60p cross-hatch signal to the ANALOG Y/G input connector.
14. Adjust the following DF adjustment data until the thickness of the cross-hatch lines at the corners of picture have the same thickness as those in the center of screen.

FOCUS AMP

FOCUS KEY

Note: If the uniformity is extremely poor, compromise so that the FOCUS AMP is not adjusted to the best focus but is adjusted to obtain the reasonable uniformity and good focus at the same time.

15. Copy the adjustment data that is obtained in step 14 to the MODE6, MODE19 and MODE20 in this order.

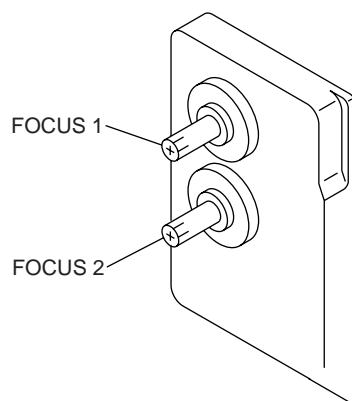


Fig. 1-1

(1) 60 Hz system

Mode	Signal format	Screen mode		Adjustment procedure
MODE1	1080/60i (1125)	16 : 9	NORMAL	Perform the adjustment of step 1 to step 8.
MODE2			UNDER SCAN	Copy the MODE 1 data.
MODE3	1035/60i (1125)	16 : 9	NORMAL	
MODE4			UNDER SCAN	
MODE5	720/60p	16 : 9	NORMAL	Perform the adjustment of step 10 to step 11.
MODE6			UNDER SCAN	Copy the MODE 5 data.
MODE7	480/60p (525)	16 : 9	NORMAL	Copy the MODE 1 data.
MODE8			UNDER SCAN	
MODE9		4 : 3	NORMAL	
MODE10			UNDER SCAN	
MODE11	480/60i (525)	16 : 9	NORMAL	Copy the MODE 13 data.
MODE12			UNDER SCAN	
MODE13		4 : 3	NORMAL	Perform the adjustment of step 10 to step 11.
MODE14			UNDER SCAN	Copy the MODE 13 data.

(2) 50 Hz system

Mode	Signal format	Screen mode		Adjustment procedure
MODE15	1080/48i (1125)	16 : 9	NORMAL	Copy the MODE 1 data.
MODE16			UNDER SCAN	
MODE17	1080/50i (1125)	16 : 9	NORMAL	Copy the MODE 1 data.
MODE18			UNDER SCAN	
MODE19	720/50p	16 : 9	NORMAL	Copy the MODE 5 data.
MODE20			UNDER SCAN	
MODE21	575/50P (625)	16 : 9	NORMAL	Copy the MODE 1 data.
MODE22			UNDER SCAN	
MODE23		4 : 3	NORMAL	
MODE24			UNDER SCAN	
MODE25	575/50i (625)	16 : 9	NORMAL	Copy the MODE 13 data.
MODE26			UNDER SCAN	
MODE27		4 : 3	NORMAL	
MODE28			UNDER SCAN	

[Landing Adjustment]

1. Connect the 480/60i entire-white signal (see note) to the ANALOG Y/G input connector.
Note: This is the NTSC entire-white signal.
2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
3. Press the 16:9 button to the OFF position to set the 4:3 mode. [The LED (orange) on top of the button turns off.]
4. Direct the CRT screen toward east (or west). Press the DEGAUSS button.
5. Set the Purity knob in the mechanical center.

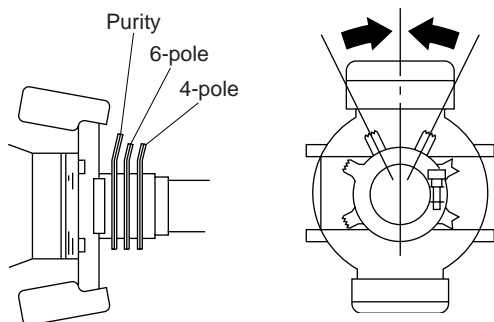


Fig. 1-2

6. Push the DY (deflection yoke) to the front as far as it can go.
7. Fix the neck assembly in the position as shown in Fig. 1-3.

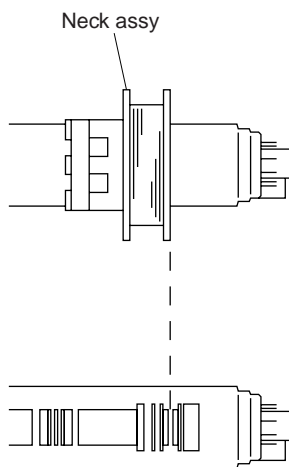


Fig. 1-3

8. Change the screen display to all green only as follows.
[While the SFHIT is ON (the orange LED on the SHIFT button turns on), press the R and B button to ON. (The orange LED on the SHIFT button turns on.)]
9. Adjust the Purity knob until green comes to the center of the display as shown in Fig. 1-4.

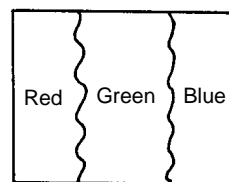


Fig. 1-4

10. Move back the DY so that the entire screen shows the green only.
11. Connect the 480/60i cross-hatch signal (see note) to the ANALOG Y/G input connector.
Note: This is the NTSC cross-hatch signal.
12. Adjust the DY inclination. After DY inclination adjustment is complete, tighten the DY fixing screw.
13. Fix the deflection yoke (DY) using the three DY spacers.

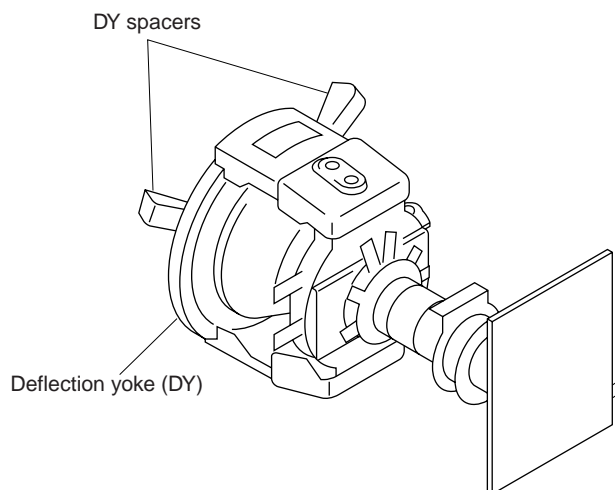


Fig. 1-5

- Final adjustment
When the adjustment is complete, check that mis-landing (landing error) does not occur even when the monitor is directed in all directions of east, west, south and north.

[H Blanking Adjustment]

• Preparation

1. Connect the monoscope signal of the signal formats that are shown in the following table, to the ANALOG Y/G input connector. Perform the H blanking adjustment in the respective screen modes using the respective signal formats.

60 Hz system

Mode	Signal format	Screen mode	
MODE1	1080/60i (1125)	16 : 9	NORMAL
MODE2			UNDER SCAN
MODE3	1035/60i (1125)	16 : 9	NORMAL
MODE4			UNDER SCAN
MODE5	720/60p	16 : 9	NORMAL
MODE6			UNDER SCAN
MODE7	480/60p (525)	16 : 9	NORMAL
MODE8			UNDER SCAN
MODE9		4 : 3	NORMAL
MODE10			UNDER SCAN
MODE11	480/60i (525)	16 : 9	NORMAL
MODE12			UNDER SCAN
MODE13		4 : 3	NORMAL
MODE14			UNDER SCAN

50 Hz system



Mode	Signal format	Screen mode	
MODE15	1080/48i (1125)	16 : 9	NORMAL
MODE16			UNDER SCAN
MODE17	1080/50i (1125)	16 : 9	NORMAL
MODE18			UNDER SCAN
MODE19	720/50p	16 : 9	NORMAL
MODE20			UNDER SCAN
MODE21	575/50P (625)	16 : 9	NORMAL
MODE22			UNDER SCAN
MODE23		4 : 3	NORMAL
MODE24			UNDER SCAN
MODE25	575/50i (625)	16 : 9	NORMAL
MODE26			UNDER SCAN
MODE27		4 : 3	NORMAL
MODE28			UNDER SCAN

2. Increase the brightness by adjusting the BRIGHT control so that blanking becomes visible on screen.

Note: The following adjustment menus are located in the directory under the DEFLECTION menu of the MAINTENANCE menu.

H BLK LEFT H CENT
H BLK RIGHT H PHASE
H SIZE

• H. Blanking Adjustment

1. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
2. To select the 4:3 mode of the adjustment, press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
To select the 16:9 mode of the adjustment, press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.
3. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]
4. To select the NORMAL mode of adjustment, press the UNDER SCAN button () to its OFF position to select the normal mode. [The green LED turns off.]
To select the UNDER SCAN mode of adjustment, press the UNDER SCAN button () to its ON position to select the under scan mode. [The green LED turns on.]
5. Set the following adjustment data to adjustment points as shown below.
H BLK LEFT : 255
H BLK RIGHT : 0
6. Adjust the H SIZE data so that the entire raster area is visible on screen.
7. Adjust the H CENTER data so that the raster is position just in the center of the screen (so that $A \approx B$). (Fig. 1-6)

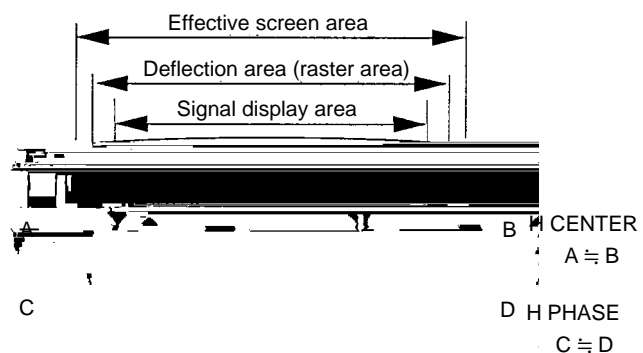


Fig. 1-6

8. Adjust the H PHASE data so that the monoscope picture is positioned just in the center of the raster (so that $C \approx D$).
9. Adjust the H BLK RIGHT data so that the horizontal blanking is positioned 0 to 2 mm outside the right end of the monoscope signal display area. (Fig. 1-7)
10. Adjust the H BLK LEFT data so that the horizontal blanking is position 0 to 2 mm outside the left end of the monoscope signal display area. (Fig. 1-7)
11. Return the H SIZE data to the original data size.

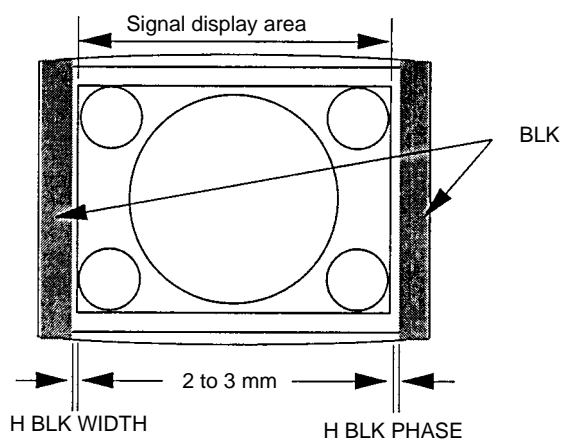


Fig. 1-7

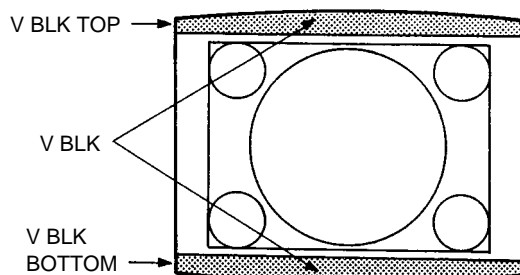


Fig. 1-8

[V Blanking Adjustment]

• Preparation

1. Connect the monoscope signal of the signal formats that are shown in the following table, to the ANALOG Y/G input connector. Perform the V blanking adjustment in the respective screen modes using the respective signal formats.

60 Hz system

Mode	Signal format	Screen mode	
MODE9	480/60p (525)	4 : 3	NORMAL
MODE13	480/60i (525)	4 : 3	NORMAL

50 Hz system

Mode	Signal format	Screen mode	
MODE23	575/50p (625)	4 : 3	NORMAL
MODE27	575/50i (625)	4 : 3	NORMAL

2. Increase the brightness by adjusting the BRIGHT control so that blanking becomes visible on screen.

Note: The following adjustment menus are located in the directory under the DEFLECTION menu of the MAINTENANCE menu.


V BLK TOP

V BLK BOTTOM

V SIZE


V CENT

• V Blanking Adjustment

1. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
2. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
3. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]
4. Press the UNDER SCAN button () to its ON position to select the under scan mode. [The green LED turns on.]
5. Adjust the V SIZE data so that the 5% over-scan is obtained.
6. Take note of the present V CENT data. After noting present V CENT data, adjust V CENT so that the top of the raster becomes visible.
7. Adjust the V BLK TOP data so that the vertical blanking on top of the screen is positioned as closest as possible to the signal display area.
8. Adjust V CENT so that the bottom of the raster becomes visible.
9. Adjust the V BLK BOTTOM data so that the vertical blanking on bottom of the screen is positioned as closest as possible to the signal display area.
10. Return the V CENT data to the original data.

[Linearity Adjustment]

• Linearity Adjustment (1)

1. Connect the 1080/60i (1125) cross-hatch signal to the ANALOG Y/G input connector.
2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
3. Press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.
4. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]
5. Press the UNDER SCAN button () to its OFF position to select the normal mode. [The green LED turns off.]
6. Check that the picture is not slanted, that there are no top and bottom PIN distortion and horizontal trapezoidal distortion.

Slanted picture:

Adjust inclination of the DY.

Horizontal PIN distortion:

Adjust upper and lower neck twist of the DY.

Horizontal trapezoidal distortion:

Adjust TLV adjustment control of the DY.

(Be careful that the TLV adjustment can deteriorate the convergence.)

• Linearity Adjustment (2)

Note 1) Connect the monoscope signal or the cross-hatch signal having the following signal formats as shown in the table below, to the ANALOG Y/G input connector. Perform the linearity adjustment (2) in the respective screen modes using the respective signal formats.

60 Hz system



MODE	Signal format	Screen mode	
MODE1	1080/60i (1125)	16 : 9	NORMAL
MODE2			UNDER SCAN
MODE3	1035/60i (1125)	16 : 9	NORMAL
MODE4			UNDER SCAN
MODE5	720/60p	16 : 9	NORMAL
MODE6			UNDER SCAN
MODE7	480/60p (525)	16 : 9	NORMAL
MODE8			UNDER SCAN
MODE9		4 : 3	NORMAL
MODE10			UNDER SCAN
MODE11	480/60i (525)	16 : 9	NORMAL
MODE12			UNDER SCAN
MODE13		4 : 3	NORMAL
MODE14			UNDER SCAN

50 Hz system

MODE	Signal format	Screen mode	
MODE15	1080/48i (1125)	16 : 9	NORMAL
MODE16			UNDER SCAN
MODE17	1080/50i (1125)	16 : 9	NORMAL
MODE18			UNDER SCAN
MODE19	720/50p	16 : 9	NORMAL
MODE20			UNDER SCAN
MODE21	575/50P (625)	16 : 9	NORMAL
MODE22			UNDER SCAN
MODE23		4 : 3	NORMAL
MODE24			UNDER SCAN
MODE25	575/50i (625)	16 : 9	NORMAL
MODE26			UNDER SCAN
MODE27		4 : 3	NORMAL
MODE28			UNDER SCAN

Note 2) The following adjustment menus are located in the directory under the DEFLECTION menu of the MAINTENANCE menu.

H SIZE
H CENTER
H KEY BAL
H KEY
H PIN BAL
H PIN
H COR S
H COR PIN
H PIN
V SIZE
V CENTER
V LIN AMP
V LIN BAL

1. Connect the monoscope signal to the ANALOG Y/G input connector.
2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
3. To adjust the 4:3 mode of adjustment, press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
4. Press the SHIFT button to OFF. [The LED (orange) on top of the button turns off.]
5. To select the NORMAL mode of adjustment, press the UNDER SCAN button () to its OFF position to select the normal mode. [The green LED turns off.]
To select the UNDER SCAN mode of adjustment, press the UNDER SCAN button () to its ON position to select the under scan mode. [The green LED turns on.]
6. Adjust the H CENTER data so that the horizontal center of the picture comes to the horizontal center of the screen.
7. Adjust the V CENTER data so that the vertical center of the picture comes to the vertical center of the screen.
8. Connect the cross-hatch signal to the ANALOG Y/G input connector.
9. Adjust the respective V SIZE, V LIN BAL, V LIN AMP and H SIZE data so that the optimum picture is obtained as shown in Fig. 1-9.

Note: Do not adjust the V SIZE data when adjusting the MODEs 9, 13, 23 and 27.

10. Adjust the horizontal trapezoidal distortion and horizontal PIN distortion on both sides of picture using the H KEY BAL, H KEY, H PIN BAL and H PIN data respectively as shown in Fig. 1-10.
11. Adjust the corner "S" distortion and the corner PIN distortion on both sides of picture using the H COR S and H COR PIN data respectively as shown in Fig. 1-11.
12. Repeat the above-described steps of the linearity adjustment(2) until the optimum horizontal linearity and vertical linearity are obtained.

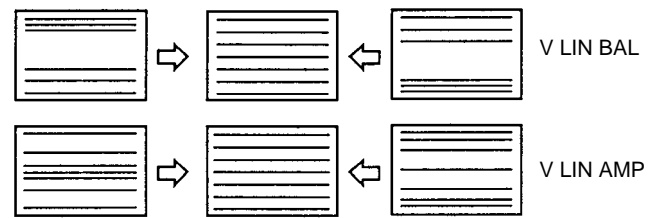


Fig. 1-9

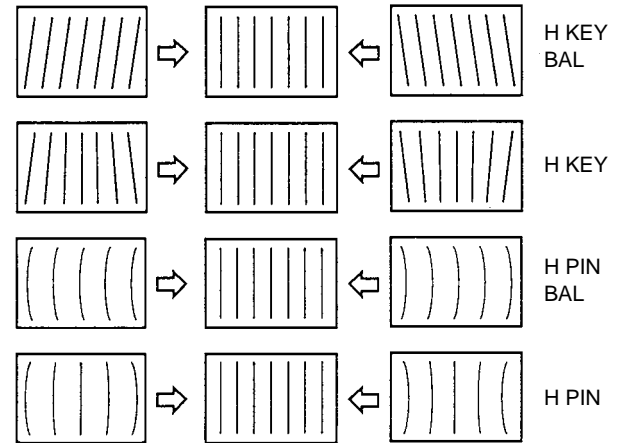


Fig. 1-10

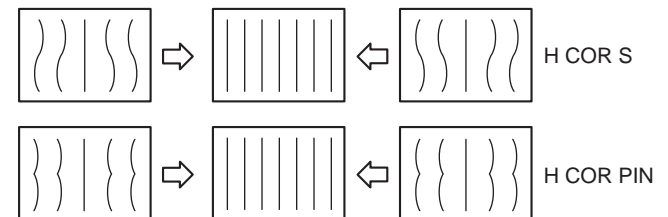



Fig. 1-11

[Convergence Adjustment]

• Preparation

1. Connect the 480/60p cross-hatch signal to the ANALOG Y/G input connector.
2. Press the SHIFT button to ON. [The LED (orange) on top of the button turns on.]
3. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
4. Press the SHIFT button to set the SHIFT OFF. [The LED (orange) on top of the button turns off.]
5. Press the UNDER SCAN button () to its OFF position to select the NORMAL mode of adjustment. [The green LED turns off.]

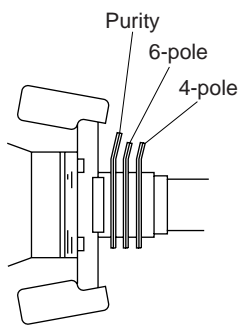


Fig. 1-12

[Static Convergence Adjustment]

• Horizontal Static Convergence Adjustment

1. Adjust RV701 (H. STAT) on the C board so that the red dots and the green dots are correctly converged.
2. When the blue dot is mis-converged with respect to the red and green dots, implement the HMC (horizontal misconvergence) correction by adjusting the 4-pole magnet and the 6-pole magnet of the DY.

• Vertical Static Convergence Adjustment

1. Implement the VMC (vertical misconvergence) correction by adjusting the 4-pole magnet and the 6-pole magnet of the DY.

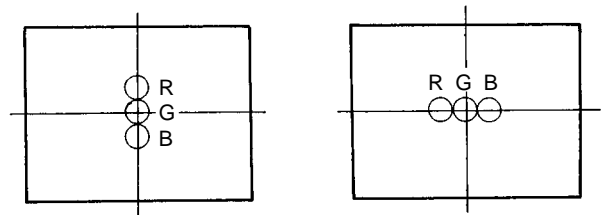


Fig. 1-13

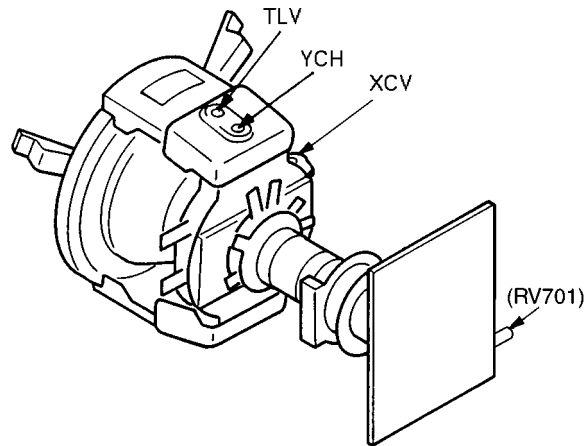


Fig. 1-14

[Dynamic Convergence Adjustment]

1. Minimize the vertical misconvergence in the left-most end of the center of a screen and in the right-most end of the center of a screen by adjusting the DY correction reactor XCV as shown in Fig. 1-15.
2. Minimize the vertical misconvergence in the top of a screen and in the bottom of a screen by adjusting the DY correction reactor YCH as shown in Fig. 1-15.
3. Minimize the vertical misconvergence in the top of a screen and in the bottom of a screen by adjusting the DY correction reactor TLV as shown in Fig. 1-15.
4. Minimize the vertical misconvergence in the left-most end of the center of a screen and in the right-most end of the center of a screen by adjusting the DY correction reactor TLH as shown in Fig. 1-15.

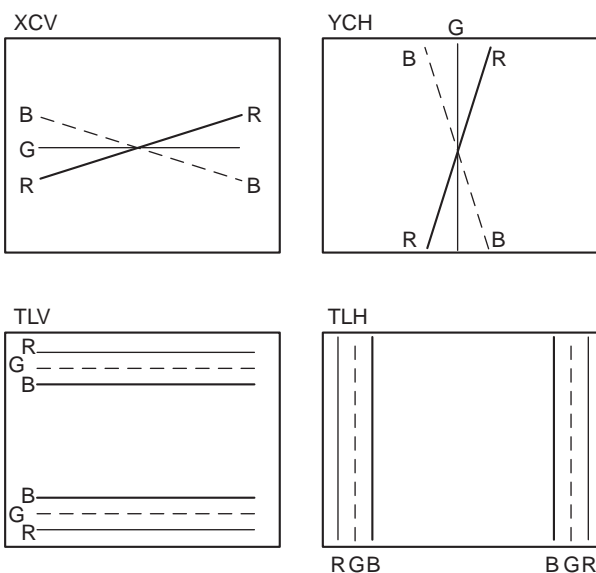


Fig. 1-15

[G2 Adjustment]

1. Connect the 480/60i entire black signal to the ANALOG Y/G input connector.
2. Connect an oscilloscope probe one after another to the C board R-cathode (TP701), G-cathode (TP702) then B-cathode (TP703) to measure the DC voltage at their respective pedestal portion.
3. Connect an oscilloscope to the cathode whose DC voltage of the respective pedestal portion has the highest DC voltage.
4. Adjust RV702 on the C board so that the DC voltage of the respective pedestal portion is 125 ± 3 V.

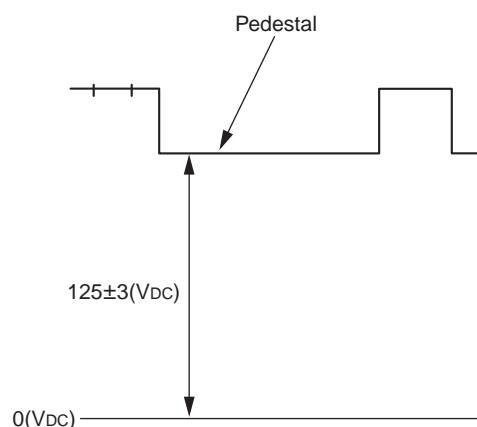


Fig. 1-16

[White Balance Adjustment]

1. Outline of the white balance adjustment and calibration of the color analyzer that is used for the white balance adjustment are described first.
- 1,1 The parameter that converts the RGB drive voltage of a CRT to the chromaticity coordinate is acquired.

This monitor has the copy function of the color temperature data between two or more monitors.

However, the CRT drive voltage are unique in every monitor because it is different depending on each CRT. Therefore, the same color temperature cannot be obtained in multiple monitors even though the same drive voltage is given to them. It means that the data that is used to copy the color temperature, must be the xyY chromaticity coordinate or similar data that does not depend on each CRT, unlike the CRT drive that depends on each CRT.

When the D93 MANUAL adjustment is implemented using the MAINTENANCE/SYSTEM/COLOR TEMP menu of the SYSTEM CONFIG menu, the parameter that converts the CRT drive voltage to the chromaticity coordinate is created while the adjustment is implemented. This parameter is used when copying the color temperature data to other monitors as shown.

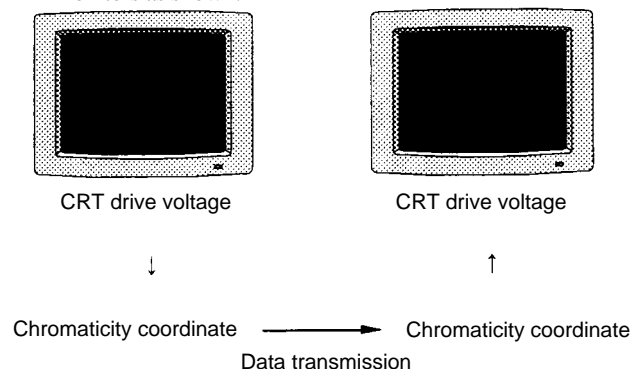


Fig. 1-17

- 1.2 D65 color temperature adjustment
- 1.3 Copying the color temperature data to the STD color temperature, COLOR1 color temperature and COLOR2 color temperature.

• On calibration of the color analyzer

When color temperature of any monitor is measured by two or more color analyzers, these color analyzers show different measurement values even though the object of measurement is the same. Also the measurement value of color analyzer changes as time elapses.

Therefore, any color analyzer must be calibrated so that it shows the correct measurement value of the following chromaticity coordinate before using the analyzer.

	x	y	y (cd/m ²)
D65	0.313	0.329	2.7
	0.313	0.329	120
D93	0.283	0.297	2.7
	0.283	0.297	120

2. Preparation for Adjustment
- 2.1 Connect the 480/60i (525) WINDOW signal to the ANALOG Y/G input connector.
- 2.2 Connect the RS-232C connector of a color analyzer CA-100 with the OPTION connector of a monitor using the cable that is shown by section “3-1. Set-Up Adjustment When CRT is Replaced - Required tools and measuring instruments, item 8”.
- 2.3 Set up the CA-100 as described below. Attach the measurement probe of the CA-100 to the center of the CRT screen.

Display mode	xyY mode
Baud rate	9600

3. White Balance Adjustment
- 3.1 White Balance Adjustment (1)
1. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.
2. Press the MONO ON button to select the B/W mode. [The green LED turns on.]
3. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
4. Select VIDEO menu of the MAINTENANCE menu.
5. Take note of the SUB CONTRAST data. Then set 100 to the SUB CONTRAST data.
6. Select SYSTEM/COLOR TEMP menu of the MAINTENANCE menu.
7. Select D93 of the SYSTEM/COLOR TEMP menu. Then cover the entire CRT screen surface with a black blind cloth. Select the MANUAL adjustment item and adjust the white balance until the following value is obtained.









$$x = 0.283$$

$$y = 0.297$$
8. Select D65 of the SYSTEM/COLOR TEMP menu. Then cover the entire CRT screen surface with a thick black blind cloth. Select the MANUAL adjustment item and adjust the white balance until the following value is obtained.

$$x = 0.313$$

$$y = 0.329$$
9. Select the SYSTEM/COLOR TEMP/COPY/OTHER VALUE menu.
10. After selecting the STD item of the COLOR TEMP menu, select D93. Copy the D93 color temperature data to STD.
11. After selecting the COLOR1 item of the COLOR TEMP menu, select D65. Copy the D65 color temperature data to COLOR1.
12. After selecting the COLOR2 item of the COLOR TEMP menu, select D93. Copy the D93 color temperature data to COLOR2.
13. Select VIDEO menu of the MAINTENANCE menu.
14. Return the SUB CONTRAST data to the original data.
15. Press the MONO button to the OFF position to cancel the B/W mode. [The green LED turns off.]

3.2 Sub Contrast Adjustment

1. Connect the 480/60i (525) 100 IRE WINDOW signal to the ANALOG Y/G input connector.
2. Attach the luminance meter to the center of the CRT screen.
3. Select STD using the COLOR TEMP menu of the INPUT CONFIG menu.
4. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
5. Select SUB CONTRAST menu of the VIDEO menu.
6. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
7. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button]. Press the UNDER SCAN button () to its ON position to select the under scan mode. [The green LED turns off.]
8. Adjust SUB CONTRAST so that luminance becomes 120 cd/m².
9. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 ON button [to turn on the LED (orange)] to select the 16:9 mode.
10. Adjust SUB CONTRAST so that luminance becomes 120 cd/m².
11. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button]. Press the UNDER SCAN button () to its ON position to select the under scan mode. [The green LED turns off.]
12. Adjust SUB CONTRAST so that luminance becomes 120 cd/m².
13. Press the UNDER SCAN button () to its ON position to select the under scan mode. [The green LED turns off.]
14. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
15. Connect the 1080/60i 100 IRE WINDOW signal to the ANALOG Y/G input connector.
16. Adjust SUB CONTRAST so that luminance becomes 120 cd/m².
17. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button]. Press the UNDER SCAN button () to its ON position to select the under scan mode. [The green LED turns off.]
18. Adjust SUB CONTRAST so that luminance becomes 120 cd/m².
19. Press the UNDER SCAN button () to its OFF position to select the normal mode. [The green LED turns on.]
20. Connect the 480/60p (525P) 100 IRE WINDOW signal to the ANALOG Y/G input connector.
21. Press the SHIFT ON button [to turn on the LED (orange) on top of the SHIFT button]. Press the 16:9 OFF button [to turn off the LED (orange)] to select the 4:3 mode.
22. Press the SHIFT OFF button [to turn off the LED (orange) on top of the SHIFT button]. Press the UNDER SCAN button () to its OFF position to select the normal mode. [The green LED turns on.]
23. Adjust SUB CONTRAST so that luminance becomes 120 cd/m².
24. Press the UNDER SCAN button () to its OFF position to select the normal mode. [The green LED turns on.]
25. Adjust SUB CONTRAST so that luminance becomes 120 cd/m².
26. Press the UNDER SCAN button () to its OFF position to select the normal mode. [The green LED turns on.]

3.3 White Balance Adjustment (2)

1. Connect the 480/60i (525) 20 IRE WINDOW color difference signal to the ANALOG Y/G input connector.
2. Select STD using the COLOR TEMP menu of the INPUT CONFIG menu.
3. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
4. Select the VIDEO menu.
5. Increase the CHROMA control to its maximum.
6. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.

$$x = 0.283$$

$$y = 0.297$$

3.4 White Balance Adjustment (3)

1. Connect the 1080/60i (1125) 20 IRE WINDOW color difference signal to the ANALOG Y/G input connector.
2. Select STD using the COLOR TEMP menu of the INPUT CONFIG menu.
3. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
4. Select the VIDEO menu.
5. Increase the CHROMA control to its maximum.
6. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.
 $x = 0.283$
 $y = 0.297$

3.5 White Balance Adjustment (4)

1. Turn off the main POWER switch.
2. Insert the BKM-142HD into the SLOT 2.
3. Connect the HD-SDI 20 IRE WINDOW signal to the BKM-142HD.
4. Turn on the main POWER switch.
5. Select HD-SDI using the FORMAT menu of the INPUT CONFIG menu.
6. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
7. Select the VIDEO menu.
8. Increase the CHROMA control to its maximum.
9. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.
 $x = 0.283$
 $y = 0.297$

3.6 White Balance Adjustment (5)

1. Turn off the main POWER switch.
2. Insert the BKM-120D into the SLOT 2.
3. Connect the D1-SDI 20 IRE WINDOW signal to the BKM-120D.
4. Turn on the main POWER switch.
5. Select D1-SDI using the FORMAT menu of the INPUT CONFIG menu.
6. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
7. Select the VIDEO menu.
8. Increase the CHROMA control to its maximum.
9. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.
 $x = 0.283$
 $y = 0.297$

3.7 White Balance Adjustment (6)

1. Turn off the main POWER switch.
2. Insert the BKM-127W into the SLOT 2.
3. Connect the NTSC 20 IRE WINDOW signal to the BKM-127W.
4. Turn on the main POWER switch.
5. Select NTSC, PAL using the FORMAT menu of the INPUT CONFIG menu.
6. Select MAINTENANCE menu of the SYSTEM CONFIG menu.
7. Select the VIDEO menu.
8. Increase the CHROMA control to its maximum.
9. Adjust white balance by adjusting the PR/R BLACK and PB/B BLACK menus of the VIDEO menu.
 $x = 0.283$
 $y = 0.297$

Section 4

Safety Related Adjustments

This section describes the adjustment procedure that is required when the safety related parts are replaced.

[Preparation]

- Required tools and measuring equipment

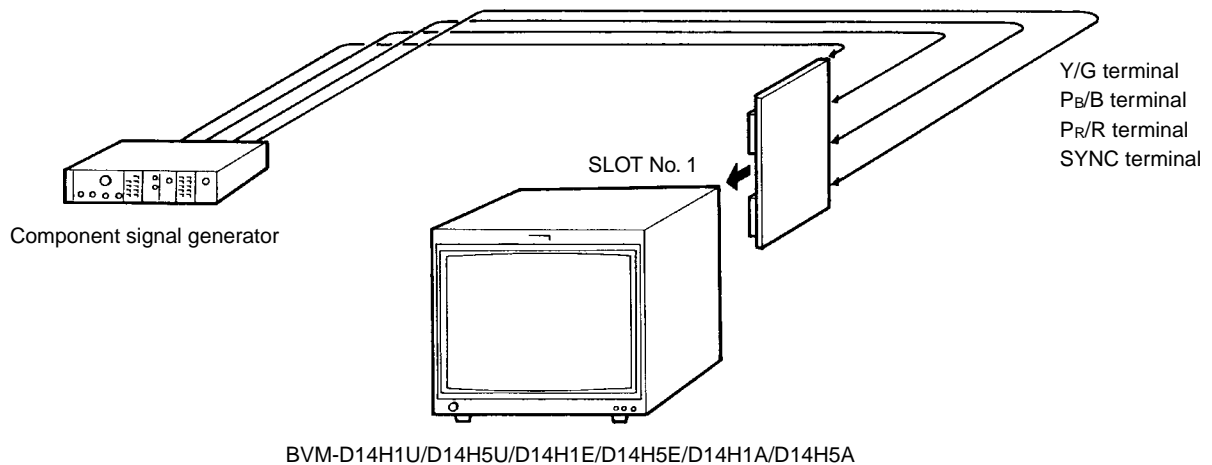
1. Signal generator
 - YPB/YPR signal generator
 - 1080/60i (1125) : SMPTE 274M standard
 - 480/60i (525) : ITU601 (Refer to page 1-29)
2. Electrostatic voltmeter: Singer ESH-27X or ESH-23X or equivalent
3. Digital voltmeter
4. 200 k Ω variable resistor
5. 20 k Ω variable resistor
6. Ammeter

- Set the INPUT CONFIGURATION menu

Set the INPUT CONFIGURATION menu of the SETUP menu as shown below unless otherwise specified.

```


FORMAT ..... YPBPR
SLOT NO ..... 1
INPUT NO ..... 1
SYNC MODE ..... INT
APEARTURE VALUE ..... 100
CHANNEL NAME ..... PROG
COLOR TEMP ..... STD
H PHASE ..... 000
MARKER PHASE ..... 000
MARKER WIDTH ..... 000
  
```




+B (135 V) Voltage Check

1. Connect a digital voltmeter across C645 on the G board.
2. Turn on the main power.
3. Connect the 1080/60i 100 IRE signal (see note) to input connector.
Note: 1125 (1080) 100 IRE signal
4. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
5. Set the BRIGHTNESS and CONTRAST buttons to their MAX positions.
6. Check that the following DC voltage appears.
 $135.0 \pm 0.8 \text{ V}$
7. Turn off the main power.
8. Disconnect the digital voltmeter.

High Voltage Regulator Check

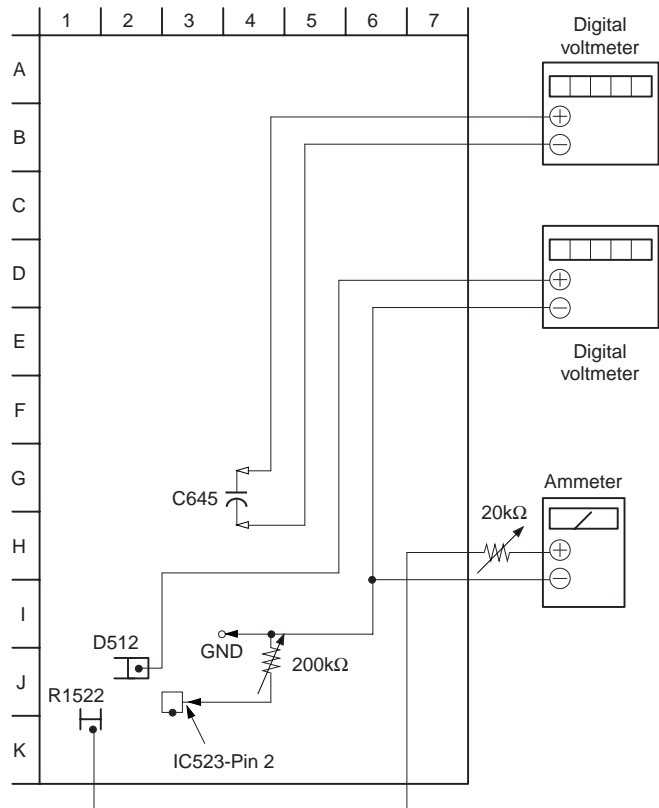
When the following parts (the parts to which the  mark is attached on the schematic diagram) are replaced, be sure to perform the following checks.

-  G board IC515, IC519, IC520, T502, R1509, R1514, R1576, R1577, R592, R593, R599

1. Turn off the main power.
2. Connect an electrostatic voltmeter to the anode cap of CRT tube.
 - Electrostatic voltmeter: It must have already been calibrated to have the input impedance of $2 \times 10^9 \Omega$ or more. Singer ESH-27X or ESH-23X or equivalent
3. Turn on the main power.
4. Connect the 1080/60i monoscope signal (see note) to input connector.
Note: 1125 (1080) monoscope signal
5. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
6. Set the BRIGHTNESS and CONTRAST buttons to their mechanical center positions.
7. Check that the following high voltage appears.
 $22.5 \pm 1.0 \text{ kV}$
8. Turn off the main power.
9. Disconnect the electrostatic voltmeter.

[Connection]

G board (Side B)



High Voltage Hold-Down Check

When the following parts (the parts to which the ■ mark is attached on the schematic diagram) are replaced, be sure to perform the following checks.

■ G board IC514, IC507, IC523, Q520, D506,
D513, D535, T502, R553, R560, R561,
R569, R575, R597, R1566, R512

1. Turn off the main power.
2. Connect a digital voltmeter between D513 cathode and GND of G board.
3. Connect a 200 k Ω variable resistor between IC523 pin-2 and GND of the G board.
[Adjust the 200 k Ω variable resistor to its maximum resistance value.]
5. Connect the 480/60i entire black signal (see note) to input connector.
Note: NTSC entire black signal
6. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
7. Set the BRIGHTNESS and CONTRAST buttons to their MIN positions.
8. Confirm that the raster disappears from the CRT screen when the DC voltage at D513 cathode reaches the following voltage as the 200 k Ω variable resistor is turned to decrease its resistance value gradually.
 25.5 ± 1.0 V
9. Turn off the main power.
10. Remove the 200 k Ω variable resistor that is connected to IC523 pin-2.
11. Turn on the main power.
12. Confirm that the DC voltage at D513 cathode is as follows.
 20.0 ± 1.5 V
13. Connect the 480/60i entire white signal to input connector.
14. Set the BRIGHTNESS and CONTRAST buttons to their MAXIMUM positions.
15. Confirm that the DC voltage at TP505 is as follows.
 22.0 ± 2.0 V
16. Disconnect the digital voltmeter.

Beam Current Protector Check

When the following parts (the parts to which the ■ mark is attached on the schematic diagram) are replaced, be sure to perform the following checks.

■ G board IC507, IC517, IC523, Q520, D507,
D535, T502, R1516, R1517, R1518,
R1521, R1522, R1523, R1566, R1569,
R512, R562, R576, R578, R579, R580,
R586

1. Turn off the main power.
2. Connect a DC ammeter and a 20 k Ω variable resistor in series between the junction point of R1522 and R1523, and GND on the G board
[The junction point of R1522 and R1523 is the positive (+) side. Adjust the 20 k Ω variable resistor to its maximum resistance beforehand.]
3. Turn on the main power.
4. Connect the 480/60i entire black signal (see note) to input connector.
Note: NTSC entire black signal
5. Push the BRIGHTNESS and CONTRAST buttons to their MANUAL positions (to turn the green LEDs on the buttons.)
6. Set the BRIGHTNESS and CONTRAST buttons to their mechanical center positions.
7. Confirm that the raster disappears from the CRT screen when the DC ammeter reaches the following value as the 20 k Ω variable resistor is turned to decrease its resistance value gradually.
 $1600 \mu\text{A}$
8. Turn off the main power.
9. Remove a 20 k Ω variable resistor and a DC ammeter.

Section 5

Circuit Adjustments

5-1. B Board Adjustments

This section describes the following adjustments that are required when the parts are replaced or maintenance is performed in the B board.

1. RGB signal adjustment
2. 15k YPBPR SMPTE (709) signal adjustment
3. 15k YPBPR SMPTE (601) signal adjustment
4. 15k YPBPR BETACAM SETUP 0 (601) signal adjustment
5. 15k YPBPR BETACAM SETUP 7.5 (601) signal adjustment
6. 33k YPBPR SMPTE (709) Signal Adjustment

Control Settings

- Set the INPUT CONFIGURATION menu of the SETUP menu as shown below.
 FORMAT YPBPR
 SLOT NOT 1
 INPUT NOT 1

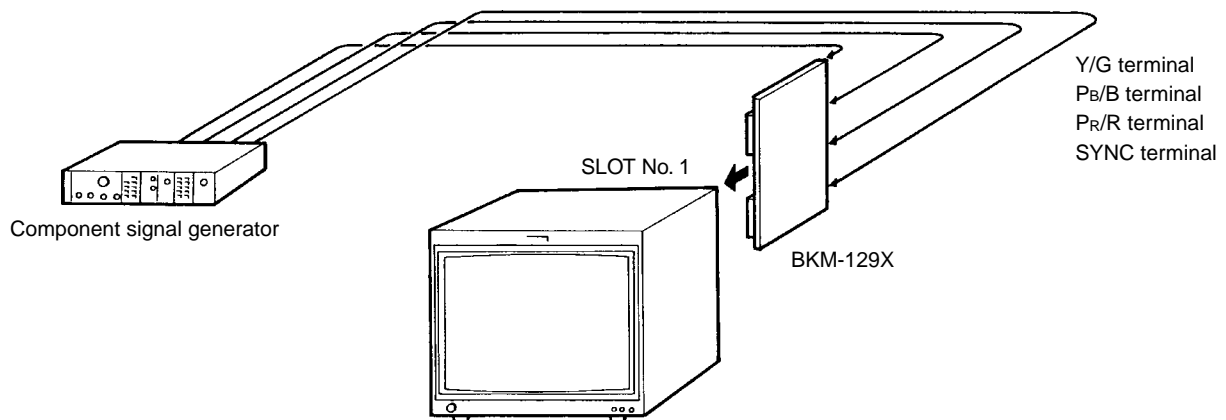
- Set “128” to the CHROMA data using the CHROMA control knob.

- Perform the following operation using the SYSTEM CONFIG menu.
 Select the B BOARD using the RE-LOAD FACTORY DATA of the SYSTEM menu.

Equipment Required

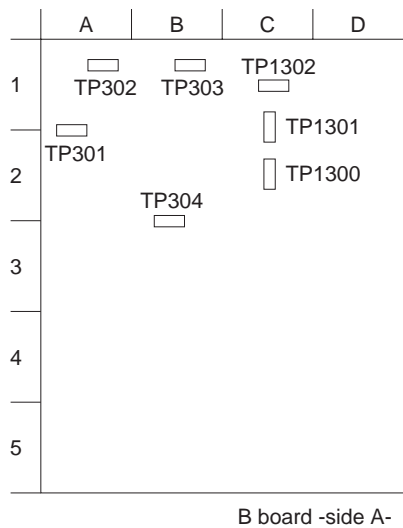
Name	Main Specifications	Model Name
Signal generator	15 kHz/60 Hz RGB 15 kHz/60 Hz YPBPR SMPTE (709) 15 kHz/60 Hz YPBPR SMPTE (601) 15 kHz/60 Hz YPBPR BETACAM SETUP 7.5 (601) 33 kHz/60 Hz YPBPR SMPTE (709)	VG-854 or equivalent
Oscilloscope	Frequency: DC to 150 MHz or more Dual trace	TEKTRONIX 2445A or equivalent

Connection (1)



BVM-D14H1U/D14H5U/D114H1E/D14H5E/D14H1A/D14H5A

Connection (2)

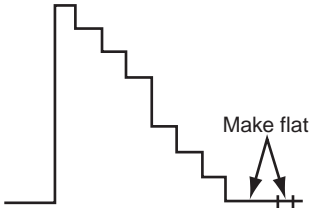
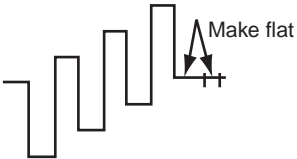



Adjustment Procedure
1. RGB Signal Adjustment



Status During Adjustment	Specifications	Adjustment Point
<p>Step 1</p> <ul style="list-style-type: none">Input the 15 kHz/60 Hz RGB 100% color bar signal.Use the FORMAT item of the INPUT CONFIG menu to select RGB.Connect an oscilloscope to TP302.	<p>Adjust the GREEN waveforms to have the same amplitude at TP302.</p> <p>Level difference: 0 ± 10 mV</p>	<p>Use the adjustment menu Y/G BLACK (40H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 2</p> <ul style="list-style-type: none">Connect an oscilloscope to TP303.	<p>Make flat the pedestal portion of the BLUE waveform at TP303.</p> <p>Level difference: 0 ± 10 mV</p>	<p>Use the adjustment menu PB/B BLACK (30H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 3</p> <ul style="list-style-type: none">Connect an oscilloscope to TP304.	<p>Make flat the pedestal portion of the RED waveform at TP304.</p> <p>Level difference: 0 ± 10 mV</p>	<p>Use the adjustment menu PR/R BLACK (20H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>

2. 15k YPBPR SMPTE (709) Signal Adjustment

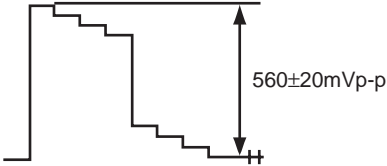
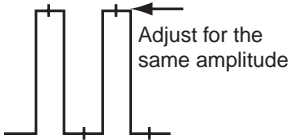
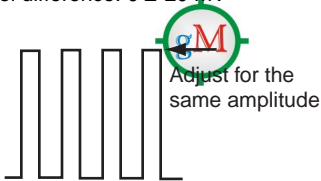
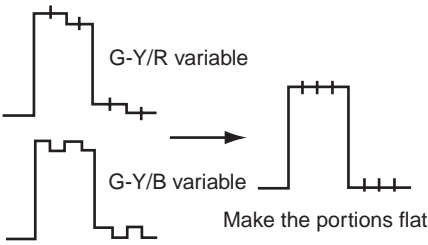
2-1. BLACK Level Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 <ul style="list-style-type: none"> Input the 15 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal. Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 709 for YPBPR MATRIX. Connect an oscilloscope to TP302. 	Make flat the pedestal portion of the Y-signal waveform at TP302. Level difference: 0 ± 10 mV 	Use the adjustment menu Y/G BLACK (41H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 <ul style="list-style-type: none"> Connect an oscilloscope to TP303. 	Make flat the pedestal portion of the PB waveform at TP303. Level difference: 0 ± 10 mV 	Use the adjustment menu PB/B BLACK (32H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 <ul style="list-style-type: none"> Connect an oscilloscope to TP304. 	Make flat the pedestal portion of the PR waveform at TP304. Level difference: 0 ± 10 mV 	Use the adjustment menu PR/R BLACK (22H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

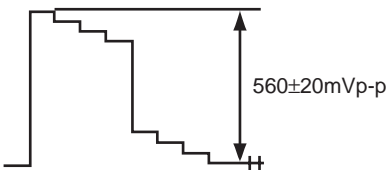
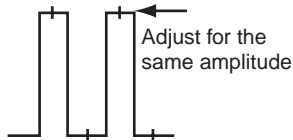
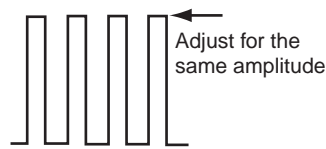
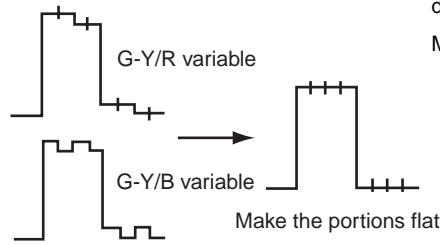
2-2. CHROMA Leak Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 <ul style="list-style-type: none"> Input the 15 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal. Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 709 for YPBPR MATRIX. Use the CHROMA knob to set "0" to the CHROMA data. Connect an oscilloscope to TP303. 	Make flat the PB waveform at TP303. Level difference: 0 ± 20 mV  Make the signal amplitude as flat as possible.	Use the adjustment menu CHROMA PB (11H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 <ul style="list-style-type: none"> Connect an oscilloscope to TP304. 	Make flat the PR waveform at TP304. Level difference: 0 ± 20 mV  Make the signal amplitude as flat as possible.	Use the adjustment menu CHROMA PR (10H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 <ul style="list-style-type: none"> Set "128" to the CHROMA data using the CHROMA control knob. 		

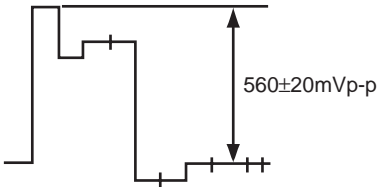
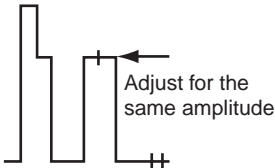
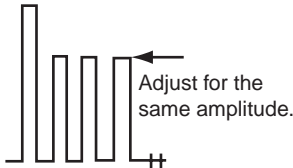
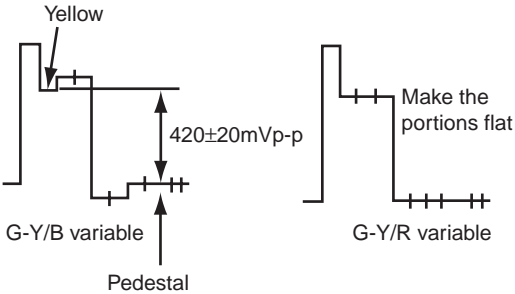
2-3. MATRIX Adjustment

Status During Adjustment	Specifications	Adjustment Point
<p>Step 1</p> <ul style="list-style-type: none">Input the 15 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal.Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 709 for YPBPR MATRIX.Connect an oscilloscope to TP1301.	<p>GREEN waveform amplitude at TP1301:</p> <p>$560 \pm 20 \text{ mVp-p}$</p> 	<p>Use the adjustment menu Y LEVEL (50H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 2</p> <ul style="list-style-type: none">Connect an oscilloscope to TP1300.	<p>Adjust the RED waveforms to have the same amplitude at TP1300.</p> <p>Level difference: $0 \pm 20 \text{ mV}$</p> 	<p>Use the adjustment menu PR LEVEL (60H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 3</p> <ul style="list-style-type: none">Connect an oscilloscope to TP1302.	<p>Adjust the BLUE waveforms to have the same amplitude at TP1302.</p> <p>Level difference: $0 \pm 20 \text{ mV}$</p> 	<p>Use the adjustment menu PB LEVEL (80H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 4</p> <ul style="list-style-type: none">Connect an oscilloscope to TP1301.	<p>Make flat the GREEN waveform at TP1301</p> <p>Level difference: $0 \pm 20 \text{ mV}$</p> 	<p>Use the adjustment menu G-Y/R (70H) and G-Y/B (90H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>

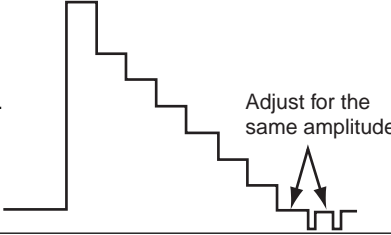
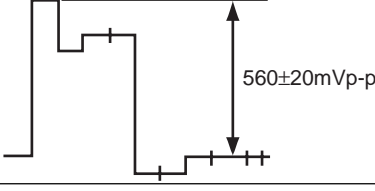
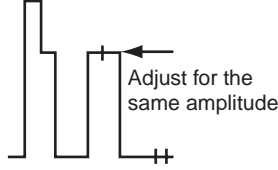
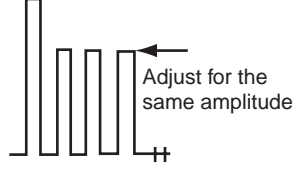
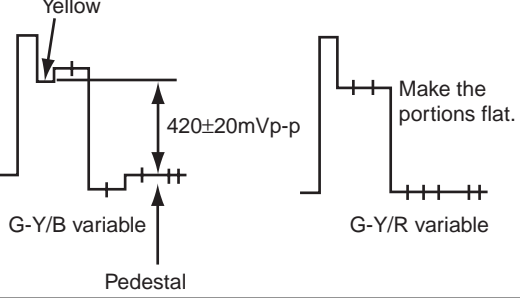
3. 15k YPBPR SMPTE (601) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
<p>Step 1</p> <ul style="list-style-type: none"> Input the 15 kHz/60 Hz YPBPR SMPTE (601) 100% color bar signal. Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE. Set 601 for YPBPR MATRIX. Connect an oscilloscope to TP1301. 	<p>GREEN waveform amplitude at TP1301: $560 \pm 20 \text{ mVp-p}$</p> 	<p>Use the adjustment menu Y LEVEL (51H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 2</p> <ul style="list-style-type: none"> Connect an oscilloscope to TP1300. 	<p>Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: $0 \pm 20 \text{ mV}$</p> 	<p>Use the adjustment menu PR LEVEL (62H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 3</p> <ul style="list-style-type: none"> Connect an oscilloscope to TP1302 	<p>Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: $0 \pm 20 \text{ mV}$</p> 	<p>Use the adjustment menu PB LEVEL (82H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 4</p> <ul style="list-style-type: none"> Connect an oscilloscope to TP1301. 	<p>Make flat the GREEN waveform at TP1301 : Level difference: $0 \pm 20 \text{ mV}$</p> 	<p>Use the adjustment menu G-Y/R (71H) and G-Y/B (91H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>

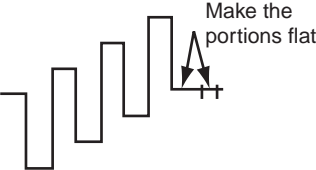
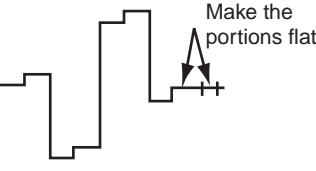
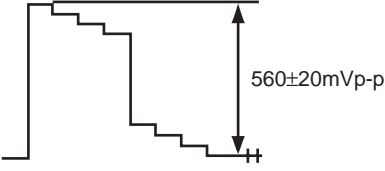
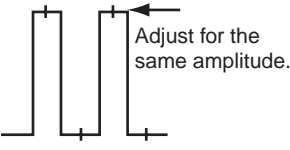
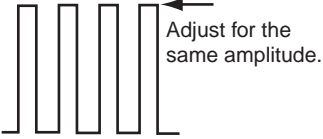
4. 15k YPBPR BETACAM SETUP 0 (601) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
<p>Step 1</p> <ul style="list-style-type: none">Input the 15 kHz/60 Hz YPBPR BETACAM 560 ± 20 mVp-p SETUP 0 (601) 75% color bar signal.Use the FORMAT item of the INPUT CONFIG menu to select YPBPR BETA 0.Connect an oscilloscope to TP1301.	<p>GREEN waveform amplitude at TP1301:</p> <p>560±20mVp-p</p> 	<p>Use the adjustment menu Y LEVEL (52H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 2</p> <ul style="list-style-type: none">Connect an oscilloscope to TP1300.	<p>Adjust the RED waveforms to have the same amplitude at TP1300.</p> <p>Level difference: 0 ± 20 mV</p> 	<p>Use the adjustment menu PR LEVEL (64H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 3</p> <ul style="list-style-type: none">Connect an oscilloscope to TP1302.	<p>Adjust the BLUE waveforms to have the same amplitude at TP1302.</p> <p>Level difference: 0 ± 20 mV</p> 	<p>Use the adjustment menu PB LEVEL (84H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 4</p> <ul style="list-style-type: none">Connect an oscilloscope to TP1301.	<p>Make flat the GREEN waveform at TP1301.</p> <p>Amplitude between YELLOW and pedestal: 420 ± 20 mVp-p</p> <p>Make flat the waveform: Level difference: 0 ± 20 mV</p> 	<p>Use the adjustment menu G-Y/R (72H) and G-Y/B (92H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>

5. 15k YPBPR BETACAM SETUP 7.5 (601) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
Step 1 <ul style="list-style-type: none"> Input the 15 kHz/60 Hz YPBPR BETACAM SETUP 7.5 (601) 75% color bar signal. Use the FORMAT item of the INPUT CONFIG menu to select YPBPR BETA 7.5. Connect an oscilloscope to TP302. 	Make flat the pedestal portion of the Y-signal waveform at TP302. Level difference: 0 ± 10 mV 	Use the adjustment menu Y/G BLACK (42H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 2 <ul style="list-style-type: none"> Connect an oscilloscope to TP1301. 	GREEN waveform amplitude at TP1301: 560 ± 20 mVp-p 	Use the adjustment menu Y LEVEL (53H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 3 <ul style="list-style-type: none"> Connect an oscilloscope to TP1300. 	Adjust the RED waveforms to have the same amplitude at TP1300. Level difference: 0 ± 20 mV 	Use the adjustment menu PR LEVEL (65H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 4 <ul style="list-style-type: none"> Connect an oscilloscope to TP1302. 	Adjust the BLUE waveforms to have the same amplitude at TP1302. Level difference: 0 ± 20 mV 	Use the adjustment menu PB LEVEL (85H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.
Step 5 <ul style="list-style-type: none"> Connect an oscilloscope to TP1301. 	Make flat the GREEN waveform at TP1301. Amplitude between YELLOW and pedestal: 420 ± 20 mVp-p Make flat the waveform: Level difference: 0 ± 20 mV 	Use the adjustment menu G-Y/R (73H) and G-Y/B (93H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.

6. 33k YPBPR SMPTE (709) Signal Adjustment

Status During Adjustment	Specifications	Adjustment Point
<p>Step 1</p> <ul style="list-style-type: none">Input the 33 kHz/60 Hz YPBPR SMPTE (709) 100% color bar signal.Use the FORMAT item of the INPUT CONFIG menu to select YPBPR SMPTE.Connect an oscilloscope to TP303.	<p>Make flat the PB waveform at TP303.</p> <p>Level difference: 0 ± 10 mV</p> 	<p>Use the adjustment menu PB/B BLACK (33H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 2</p> <ul style="list-style-type: none">Connect an oscilloscope to TP304.	<p>Make flat the PR waveform at TP304.</p> <p>Level difference: 0 ± 10 mV</p> 	<p>Use the adjustment menu PR/R BLACK (23H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 3</p> <ul style="list-style-type: none">Connect an oscilloscope to TP1301.	<p>Check amplitude of the GREEN waveform at TP1301: 560 ± 20 mVp-p</p> 	
<p>Step 4</p> <ul style="list-style-type: none">Connect an oscilloscope to TP1300.	<p>Adjust the RED waveforms to have the same amplitude at TP1300.</p> <p>Level difference: 0 ± 20 mV</p> 	<p>Use the adjustment menu PR LEVEL (61H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>
<p>Step 5</p> <ul style="list-style-type: none">Connect an oscilloscope to TP1302.	<p>Adjust the BLUE waveforms to have the same amplitude at TP1302.</p> <p>Level difference: 0 ± 20 mV</p> 	<p>Use the adjustment menu PB LEVEL (81H) that is located under the directory of the VIDEO menu of the MAINTENANCE menu.</p>

Section 6

Circuit Descriptions

This section describes the circuit operations of the following boards used in the BVM-D14H1J/D14H5J.

- 6-1. G board
- 6-2. G1 board
- 6-3. B board
- 6-4. C board
- 6-5. MA board
- 6-6. MB board

6-1. G Board

Power Supply Circuit

Power supply of this monitor consists of the following two switching regulators.

1. The power factor improvement regulator that is used to comply with the power supply high frequency harmonics regulations.
2. The main regulator that supplies the power to the signal system, the deflection circuit and high voltage circuit.

1. Power Factor Improvement Circuit

The power factor improvement block

The power factor improvement circuit of this monitor uses the active filter IC module (IC601) of the current-threshold type boost-chopper system to comply with the power supply high frequency harmonics regulations.

The power factor improvement circuit consists of IC601, T603 and C615.

IC601 is a module IC in which the control IC, the switching FET, the boost diode and input/output voltage detectors are built in.

Basic operation of the power factor improvement block is as follows. When the POWER signal (IC508 pin-1 output) goes "LOW" and the Vcc power is supplied to IC601, the FET inside the module IC601 is turned on and an electric current starts to flow in the primary winding of T603 and the FET. This current increases with the slope of $V_{in}(\text{rms})/L$ where L is the primary side inductance of T603. This FET current is monitored by the source current detection resistor that is connected between pin-4 and pin-7 of IC601. When this FET current reaches the set value that is specified by the multiplier inside the control IC, the FET is turned off. Then an electric current flows through the boost diode where the current decreases with the slope of $-(V_d - V_{in}(\text{rms}))/L$. When this current reaches 0, the FET is turned on.

The current-threshold operation is thus realized by the above described circuit operations. (Vd: Voltage across C615. Vin: Input voltage to power supply)

In other words, the circuit operations that are described, are performed as one-operation-cycle all the time while the power is on. When you observe the circuit operations as described above, during only the half-wave period of commercial power line frequency, you will notice that ON/OFF timing of the FET is controlled by the control IC so that the envelope of the peak values of the choke current is proportional to the half-wave of the sine waveform of the power line frequency. As the result of this control, waveform of the input voltage and that of the output voltage become similar so that the power factor is improved. At the same time, the voltage Vd across C615 becomes higher than the peak value of the input voltage to the power circuit. The voltage Vd is set to about 380 V regardless of the input voltage to the power circuit. This circuit does not operate during the standby mode. When this circuit is not operating, the voltage Vd becomes almost equal to the peak value of the input voltage to the power supply circuit.

2. Main Regulator

The separately excited current composite resonance system is used for the main regulator. The main regulator consists mainly of IC602, IC610, T605, C629, C631 and the secondary side rectifier circuit of T605. IC602 is a multiple chip module in which the four chips of the control block, the FET drive block and the switching FET block (high side and low side) are connected by bonding wire inside the IC. IC210 has the following circuit configuration. A half-bridge rectifier is constructed by the two FET switches, the two capacitors C629 and C631, and the transformer T605 for the input voltage Vd. The secondary side of the transformer has the half wave rectifiers and full wave rectifiers for each output lines.

IC602 receives the control signal from IC610 that performs the constant voltage control over the +135 V line through the isolator PH603. The control signal changes the oscillating frequency of IC602 so that the constant voltage control is realized.

The secondary side of T605 generates not only +135 V but also +160 V, +15 V, -15 V, +6 V, -6 V powers and the heater voltage that are required by the respective circuits. The +15 V, -15 V, +6 V, -6 V powers are regulated to +12 V, -12 V, +5 V, -5 V powers by the three-terminal regulators respectively so that these powers are supplied to each circuit board.

3. Over-Voltage Protection and Over-Current Protection Circuit

The +135 V voltage line of the main power supply has the over-voltage protection circuit and the over-current protection circuit that protect the power supply circuit and the loads when an abnormality occurs in the respective loads and in the voltage feedback system.

When an over-current occurs, the latch circuit consisting of Q616 and Q617 is turned on so that the VCC power to IC601 and IC602 is turned off through the isolator PH604 to stop operation of the main power supply circuit.

This protection circuit is released when the input power to the main power supply circuit is turned off once or when the standby mode is selected.

Deflection and High Voltage Circuit

1. Sync Signal and Deflection Signal Processing Circuit

The horizontal and vertical sync signals that are input from CN501 (pins-1/-2) are sent to the H/V DELAY timing circuit consisting of IC510, IC522, IC509 and IC526. The H/V DELAY timing circuit outputs the sync signals that have the same phase as those of the input signal during normal operation. However, during the H/V DELAY mode, it outputs the delayed sync signals to which delay is given by IC509 and IC510. The output sync signals are processed of the waveforms by IC503 and are sent to the deflection signal processor IC507.

The deflection signal processor IC507 outputs the various signals that are required for deflection, such as horizontal drive circuit, parabola signal for dynamic focusing, parabola signal for picture distortion correction, vertical drive signal and H/V blanking signals. The output signals are controlled directly by the microprocessor in the MA board through I2C bus.

The horizontal free-running frequency is set for about 18 kHz. The pull-in range of the input signal frequency is from 15 kHz to 45 kHz.

The deflection signal processor IC507 has the built-in protector for X-ray protection. When its pin-15 is raised to 8 V or higher, the X-ray protection circuit starts working to stop the horizontal and vertical outputs. The X-ray protector circuit can be reset by turning off the main power once then back on, or by entering the standby mode.

There can be a case that the monitor receives the non-standard TV signal such as the output signal from VTR. In order to reduce the skew effect on screen caused by irregular timing of the input sync signal, the PLL circuit inside the IC507 is stopped during the vertical blanking period.

This function is effective when the horizontal frequency of the input signal is 15 kHz (NTSC and PAL).

Because this circuit produces an ill effect when the standard TV signal is input, use or not-use of this circuit can be selected from the on-screen menu.

2. PWM Control Circuit for +B Power Voltages for Horizontal Deflection and of High Voltage

The PWM control circuit for +B power voltage consists of IC515 and its peripheral circuit. The horizontal drive signal that is output from IC507 pin-21 is used as the PWM trigger signal.

The PWM control for horizontal deflection system is performed by inputting the deflection distortion correction signal that is output from IC507 pin-31 to which the H. size control DC voltage super-imposed, to IC515 pin-8. On the other hand, the horizontal signal that is fed back from the horizontal output circuit is inputted to IC515 pin-7. These two input signals are compared and the error signal between them, that is the PWM control signal is output from IC515 pin-11. The PWM control output signal is sent to the +B regulator circuit consisting of Q2503 and its peripheral circuit that control the H. size and the deflection distortion correction.

The PWM control for the high voltage circuit is performed by inputting the reference signal generated by IC519, to IC515 pin-16 that is compared with the FBT high voltage detected voltage that is input to IC515 pin-17. The error signal between them, that is the PWM control signal is output from IC515 pin-13. The PWM control output signal is sent to the +B regulator circuit consisting of Q514 and its peripheral circuit that control the high voltage to be supplied to CRT.

The PWM control signal that is output from IC515 receives the DTC (Dead Time Control) in order to protect the horizontal output circuit and the high voltage output circuit from damage caused by the sharp change of frequency of the input video signal. The DTC circuit works as follows. When frequency of the input sync signal is changed, the unlock signal that is output from IC507 pin-37 is sent to IC507 pin-6 as the DTC signal input via the switches Q523 and Q504, so that the PWM is controlled to decrease the +B regulator output voltages to be supplied to the horizontal and high voltage systems.

3. Horizontal Output Circuit

The horizontal drive signal that is output from IC507 pin-21 is amplified by the horizontal drive circuit consisting of Q2501, Q2502, Q2505 and their peripheral circuit. The horizontal drive signal then drives T2502 (HDT) and Q2508 (H. OUT). The H. pulse is induced by the resonance between the capacitors C2528, C2530, C2531 and the H. winding impedance.

The H. pulse is voltage-divided, wave-shaped by IC2501 and its peripheral circuit, and is sent to IC507 pin-6, the B board and the MA board.

Amplitude of the horizontal deflection current is detected by T2503, Q2513 and their peripheral circuit. The detected amplitude is fed back to the PWM control circuit.

Multiple S-shape correction capacitors are prepared, and are selected by Q2514, Q2515, Q2516, Q2517, Q2518 and Q2519. The S-shape correction capacitors are switched at the following three points of horizontal frequencies:

Horizontal frequency of 15 kHz, H. frequency in the range of 27 to 33.75 kHz and H. frequency in the range of 37 to 45 kHz. The horizontal linearity correction coils are switched by the relay RY2501 when the H. frequency of 15 kHz is input.

The H. centering circuit consists of IC2502, IC2504 and Q2504. The H. center position is controlled by amplifying the H. CENT. DC signal that is supplied from IC508 (D/A) and by super-imposing the DC current to the horizontal deflection current. As to the power supply for IC2504, the secondary winding of T2501 (HOT) is used so that a floating power supply is realized.

4. Vertical Output Circuit

The vertical output circuit consists of IC2503 and its peripheral circuit.

The vertical output signal is generated by inputting the V. drive signal that is output from IC507 pin-29, to IC2503 pin-1 where it is amplified. The V. center position is controlled by inputting the V. DC signal that is supplied from IC507 pin-28, to IC2503 pin-7. The vertical deflection amplitude and the vertical center position are controlled by IC507.

The vertical feedback pulse is generated by wave-shaping the V. flyback pulse with R2570, R2571 and D2520, and by inputting it to IC507 pin-30.

5. High Voltage Output Circuit

The HV drive signal that is output from IC515 pin-23 is sent to the high voltage output circuit consisting of Q506, Q507, Q513 (HV. OUT) and their peripheral circuit where the flyback pulse is generated by resonance. The flyback pulse is not only supplied to T502 (FBT) but also rectified, smoothed out by D520 and C578 so that the rectified high voltage is supplied to the C board as the G2 voltage.

Amplitude of the high voltage is voltage-divided by the high voltage resistors inside the FBT, and is output from T502 pin-14. The detected output of the high voltage is again voltage-divided by IC520, R1509, R1576 and R1577 so that it is sent to the PWM control signal as the high voltage feedback voltage.

6. Dynamic Focus Output Circuit

The H. focus signal that is output from IC507 pin-17 is amplified by the H. focus amplifier consisting of Q510, Q511, Q512 and the peripheral circuit. The H. focus signal then drives T501 (DFT) where it is amplified to about 500 V and is supplied to T502 pin-17. The H. focus signal interferes with the white balance reference pulse inside the CRT and produces an ill effect. In order to prevent occurrence of the ill effect, the H. focus signal is of a constant voltage is used during the vertical blanking period instead of the H. parabola signal. This switching is performed by IC516, IC524 and the peripheral circuit. The V. focus signal that is output from IC507 pin-32 is amplified by the V. focus amplifier consisting of Q517, Q518 and the peripheral circuit. The V. focus signal is amplified to about 200 V and is supplied to T502 pin-18.

7. H/V Blanking Circuit

The H/V blanking circuit consists of IC501, IC527, IC509 and the peripheral circuit. Timing of the H. blanking signal is determined by the timing reference signal. The H. SAW signal that is output from IC507 pin-16 is used as the timing reference signal for the H. blanking. IC501 determines the start position of the H. blanking and IC509 determines the end position of the H. blanking.

The V. blanking circuit consists of IC502, IC528, IC510 and the peripheral circuit. The V. SAW signal that is output from IC507 pin-29 is used as the timing reference signal for the V. blanking. IC502 determines the start position of the V. blanking and IC510 determines the end position of the V. blanking.

Timing control of the H/V blanking signal is performed using the control voltage that is output from IC512 (DA).

8. Protector Circuit

The H/V protector circuit consists of IC523, IC514 and the peripheral circuit. When the voltage that appears at T502 pin-6 (FBT tertiary winding) exceeds the reference voltage that is set by IC514, the internal protector circuit of IC507 is started up through D506. The operating point of the H/V protector circuit is set at about 27 kV of the high voltage output.

The ik protector circuit consists of IC517, IC523 and the peripheral circuit. The ABL current value is detected by R1521, R1522 and R1523. When the detected current value exceeds the reference voltage that is set by IC517, the internal protector circuit of IC507 is started up through D507. The operating point of the ik protector circuit is set at about 1500 μ A of the ABL current.

6-2. G1 Board

The G1 board is the standby regulator circuit that supplies the standby power (STBY5V) for the control system devices (such as CPU).

The standby regulator consists mainly of IC601, IC1602, PH601, T1601 and D1606. IC1601 has the built-in switching FET, the PWM controller and protection circuit. The control terminal of IC1601 receives the control signal from IC1602 that performs the constant voltage control over the STBY5V line through the isolator PH601. The internal FET inside IC1601 is PWM-switched by the control signal so that the STBY5V output from the secondary winding of T1601 is stabilized.

1. Over-Voltage Protection and Over-Current Protection Circuit

The STBY5V line of the standby power supply have the over-voltage protection circuit that protects the power supply and the loads when an abnormality occurs in the voltage feedback system.

When the over-voltage is detected, the "LOW" signal is set to the control terminal of the latch circuit through the isolator PH602 so that the power supply is stopped by the latch circuit consisting of Q606 and Q607.

This protection circuit is released when the input power is turned off that discharges the C615 voltage of the G board. When an over-current is detected in the STBY5V line, the micro-fuse F1603 blows.

6-3. B Board

1. Clamp Circuit (1)

The signal that is selected by the option board is input to CN301.

IC300 (1/3) (analog switch) is turned ON by the Y-CLP-P pulse. As a result, the pedestal voltage of the Y/G signal is sampled-and-held. In IC303, the sampled-and-held voltage and the reference voltage (Y/G BLACK voltage) are compared so that the error voltage is used to control the bias current of the Y/G signal clamp amplifier (Q300 to Q302) so that the pedestal voltage of the Y/G signal is clamped to a fixed voltage.

The same clamp operation is performed for the PB/B and PR/R signals but the C-CLP-P pulse is used as the clamp pulse.

2. Matrix Circuit

The Y, R-Y and B-Y signals are converted to the R, G and B signals by the matrix circuit in the Y/PB/PR signal is being input.

IC306 is the Y-level adjustment amplifier. IC307 and IC308 are the chroma level adjustment amplifier. The R-signal is generated by adding the Y-signal to the R-Y signal that has passed IC400 (PR gain control amplifier). The Y-signal is generated by adding the R-Y signal that has passed IC400 (PR gain control amplifier), the B-Y signal that has passed IC401 (PB gain control amplifier) and the Y-signal that is inverted and amplified by Q463. The B-signal is generated by adding the Y-signal to the B-Y signal that has passed IC401 (PB gain control amplifier).

3. RGB Selector Switch

IC1300 (1/3), IC1302 (1/3) and IC1303 (1/3) are the selector switch selecting either the RGB signal or the YPBPR signal (matrix circuit). Output of the selector switch is R, G and B signals.

4. Clamp Circuit (2)

The R-signal is sampled-and-held by the timing pulse of the deflection system.

IC1305 compares the sampled R-signal with the reference signal. The error voltage controls the DC bias of the R-signal amplifier (Q1300 to Q1302) so that the pedestal level is kept to a constant DC level all the time. The same clamp operation is performed in the G and B signals in the same way.

5. OSD Insertion Circuit

The on-screen display of the R-signal is realized by inserting the OSD blanking with IC1300 (2/3) and by inserting the OSD with IC1304 (1/3). The WINDOW signal that is used during the AUTO W/B adjustment is created by the character generator, and uses the same signal line in the same way for character display. The same insertion operation is performed in the G and B signals in the same way.

6. CUT-OFF Circuit

CUT-OFF of the R-signal is performed by IC1304 (2/3, 3/3). The same cut-off operation is performed in the G and B signals in the same way.

7. CXA1739 Peripheral Circuit

The RGB signal is input during the normal operation and the color difference signal is input during the blue-only mode.

(The B-signal is input to the Y input connector.)

CXA1739 has the built-in auto cut-off loop. The auto cut-off reference pulse is inserted into every H. period in the order of R, G then B channels at the end of the V. BLKG period (during the 3H period immediately after the rise-up of the V. pulse that is supplied to pin-18) in the output signal from CXA1739. The return pulse of the reference pulse is buffered by Q1402 and input to IC1401 pin-25. The return pulse that is input to pin-25 is compared with the BIAS control voltage by the voltage comparator. The error signal from the comparator is used to shift the DC output voltage until the return pulse agrees with the adjustment voltage. This circuit operation is performed to prevent the changing of the cut-off level caused by the drift of CRT or of the drive circuit.

Q1431 to Q1434 in the R-signal output circuit remove the smear that occurs inside the IC.

The same circuit operation is performed in the G-channel and the B-channel too.

8. ABL Circuit

The ABL circuit consists of Q1460 for ABL and Q1461 for BRT ABL.

The ABL voltage from the deflection block is input the respective emitters of Q1460 and Q1461. The voltage-divided DC voltage of the ABL signal is input the respective bases of Q1460 and Q1461. Their collectors are connected to IC1401 pin-46 (PIC CONT) and pin-7 (BRT CONT) respectively. When these transistors are turned on, the ABL operation can be performed by decreasing their respective control voltages.

9. AUTO CHROMA PHASE

The signals that are output from IC1401 are selected by IC2380. Only the sample pulse portion of the selected signal is sampled by IC2381 and is compared with the output by IC2382. The error signal from the comparator is fed back to DAC through IC2383 and automatically controls the PB LEVEL or the R LEVEL until the output agrees with the sampled level.

10. B1 Board

The B1 board is an aperture correction circuit.

The aperture correction performs the frequency compensation at 5 MHz when the input signal is 480/60i and 575/501 with DL400/DL401. It performs the frequency compensation at 16 MHz when any other signals are input. DL404 and DL405 are the delay lines that corrects the delay amount of the Y-signal. The PB and PR signals are corrected of their delay amounts by DL501, DL502, DL503 and DL504.

Amount of compensation can be varied by 2 to 6 dB when the APT is ON using the aperture correction amplifier.

11. Sync Separator Circuit/B2 Board

The sync separator circuit consists of the sync AGC circuit and the B2 board.

Either the input sync signal in the mode of 480/60i and 575/501 or that in any other modes, is selected by IC3301 (2/3), (3/3), Q3302 and Q3303. The sync signal is separated by the SYNC AGC circuit of Q3304 to Q3319.

Either INT sync or EXT sync is selected by IC3301.

In the B2 board, the equalizing pulses are extracted by IC3901, the H. sync pulse is separated by the H. SYNC SEP. circuit consisting of IC3904, IC3905, IC3906, IC3907 and the V. sync pulse is separated by the V. SYNC SEP. circuit consisting of Q3905, Q3907, Q3908.

The switch IC3902 is the selector switch that selects either the internal sync separator output or the already separated H. and V. sync signals that are input when the SDI signal is used.

6-4. C Board

The C board circuit is the CRT drive circuit.

The R-signal that is input to CN702 is amplified by about 25 dB and inverted by the cascaded amplifier consisting of Q730, Q732 and Q733, and is sent to the cathode.

This amplifier has the frequency compensation characteristics (peaking characteristics) by R733, C730, C776, R746 and L730. Q702 is the auto cut-off circuit that allows to flow the output pulse through R704 via Q735 when Q702 is ON.

The reference pulse that is current-to-voltage converted by R704, is input to IC1401 pin-25 through a buffer in the B board in order to activate the auto cut-off circuit.

The above-described circuit operations are applied to the G-signal and B-signal.

6-5. MA Board

1. System Control

IC106 (system control CPU) controls the monitor in accordance with the program that is installed in IC108 (flash EEPROM). The program in IC108 can be re-written by the boot loader program in IC106. Various settings are saved in the SRAM (IC111) that is backed up by battery.



2. Internal Bus inside Monitor

Most blocks of the deflection circuits and the signal circuits are controlled by the I2C bus that is driven by IC103 (5/6), (6/6). The I2C bus is controlled of its operation by controlling the general purpose port of IC106 by software.

IC112 is an expansion I/O unit that is used to control the internal bus and the TALLY LED.

3. Connection to Options

The respective option boards are controlled by IC101 (1/4), (2/4), (3/4), IC103 (1/6), (2/6), (3/6), (4/6) and IC104. The data communication with the option slot bus uses the strobe/hand-shake method using the SLOT ID signal. Data is transferred by MISO/MOSI/SCLK. The MISO/MOSI/SCLK signal is also used for communication between the MA board and the MB board.

IC112 is the RS-422 driver that establishes communication to read the key data or knob information of the internal controller or the control unit and to turn on/off the LED.

6-6. MB Board

1. Character Display and Internal Signal Generator

IC1107 is the character generator IC such as menu characters. IC1110 generates the 4:3 marker and the various signals for automatic adjustments.

Outputs of the two IC are mixed by IC1100 and is output.

2. Serial Communication Driver

IC1105 is the communication controller for the serial remote control. It performs the transmission and reception of the serial remote communication together with the RS-485 driver of IC1103 and IC1106.

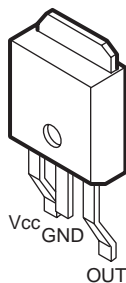
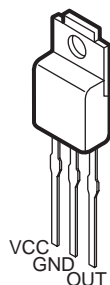
IC1108 (communication controller) and IC1109 (RS-232 driver) performs the transmission and reception of the OPTION terminals.

3. Parallel Remote Control

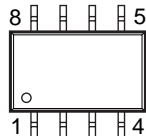
IC1112 reads out the status of the parallel remote terminal and transfers it to the CPU in the MA board.

Section 7

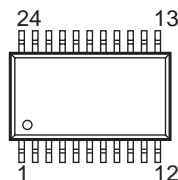
Semiconductors

BA05FP-E2**BA05T**
BA12T

CXA1211M
CXA1521M
LM358D
LM393PS
LTC490CS8
M24C02-MN6T
MAX490ECSA
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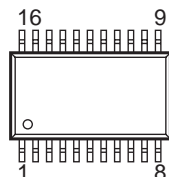


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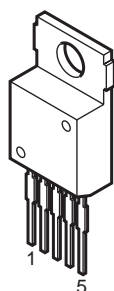
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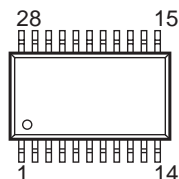
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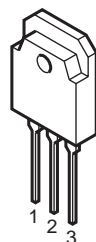
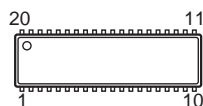
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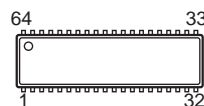
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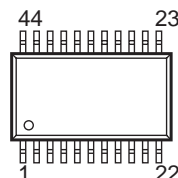
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TOP VIEW

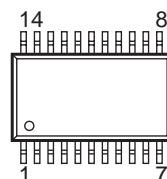
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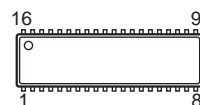
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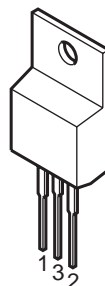
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TC74VHC14F



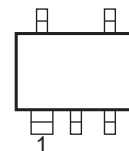
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MC74HC175FEL

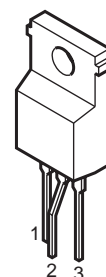
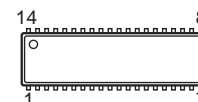
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NJM7912FA

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TC4S11F
TC4S71F
TC7S08F
TC7S14F

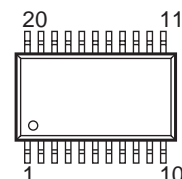


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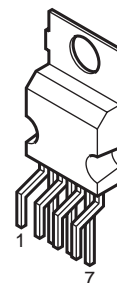
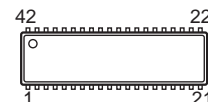
SE-135N**SN74HC05ANS**

TOP VIEW

TC74VHC244F
TC74VHC574F

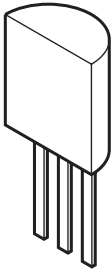


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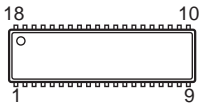
TDA8172**TDA9106**

TOP VIEW

TL431CLP
UPC1093J

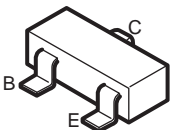


Z8622812PSC

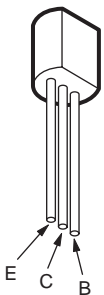


TOP VIEW

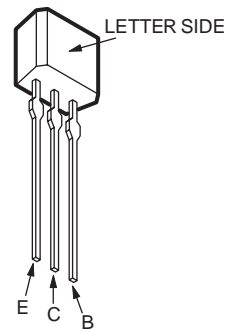
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2SA1037AK-T146-R
2SA1330-06
2SA1462-T1Y33
2SA1462-Y33
2SC1623-L5L6
2SC3326N-A
2SC3392-5-TB
2SC3545-T43
DTA114EKA-T146
DTA114GKAT146
DTA143ESA-TP
DTA144EKA-T146
DTC114EK
DTC114GKA
DTC114EKA-T146



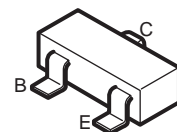
2SA1091-0
2SC2362K-G



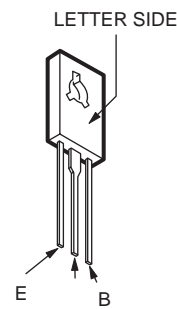
2SA1175-HFE
2SC2785-HFE



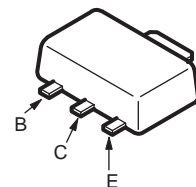
2SA1221-K
2SB734-34
2SD774-34



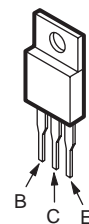
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2SC3503-DE



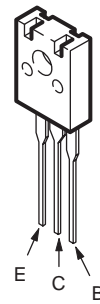
2SB1132-P
2SD1834



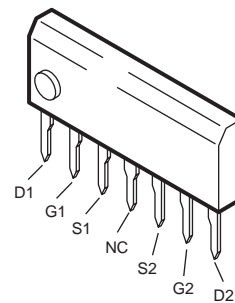
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2SC5450-CA
2SD982



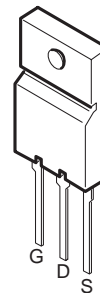
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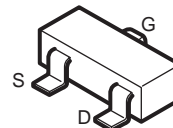
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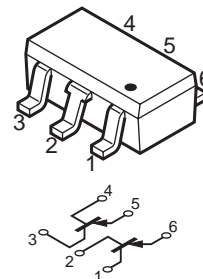
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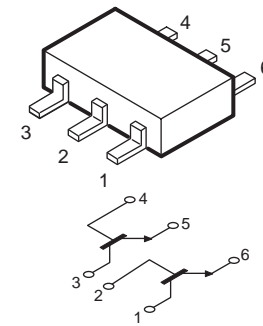
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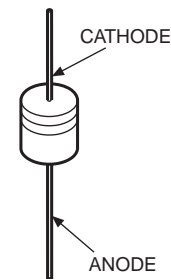
IMT2



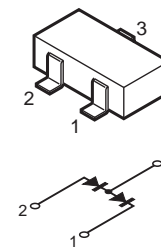
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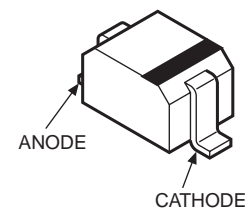
1SS119-25
D1N20R
HZS9.1NB2
RD18ESB1
RD27ESB2
RD5.1ESB3
RD6.2ESB2
RD6.8SB2-T1



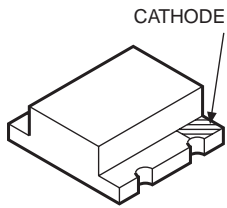
1SS226



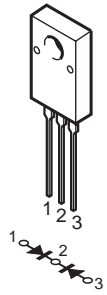
1SS352
RD12ESB2
RD13SB2
RD15SB1
RD3.3SB
RD30SB-T1
RD4.7SB2
RD6.2SB



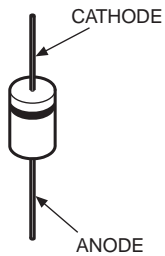
CL-155Y/PG-CD



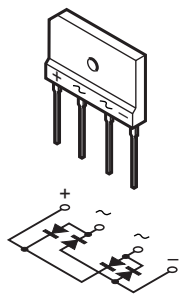
D10SC9M



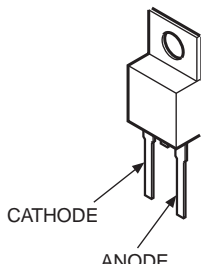
D1NL20U-TR
D1NL40-TA2
ERA91-02
ERD38-06
RH-1A
S2L20UF



D4SB60L

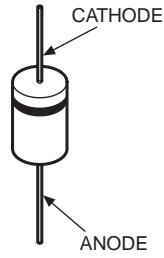


DD54SCLS-YCC-11

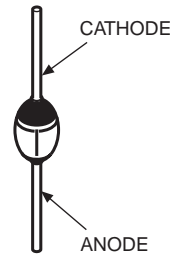


BVM-D14H1U/D14H5U/D14H1E/D14H5E/D14H1A/D14H5A

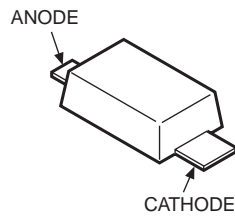
EL1Z
GP08D
RGP02-17EL-6433



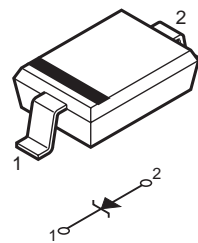
FE3D



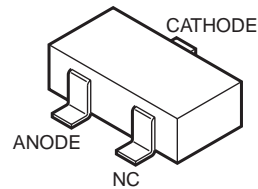
MA111-(K8).S0



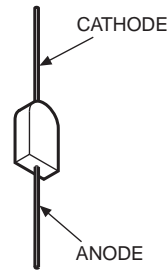
RD10SB1
RD10SB3-T1
RD12SB-T1
RD12SB1-T1
RD5.6SB2
RD7.5SB1-T1



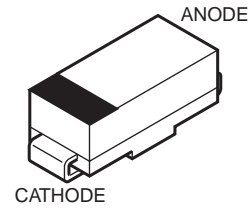
RD22M-B



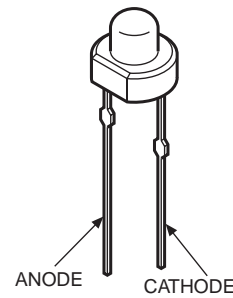
RM11C



SC311-6-TE12RA
SC802-04



SLR-325DCT31
SLR-325MCT31
SLR-325VCT31



Section 8

Exploded Views

NOTE :

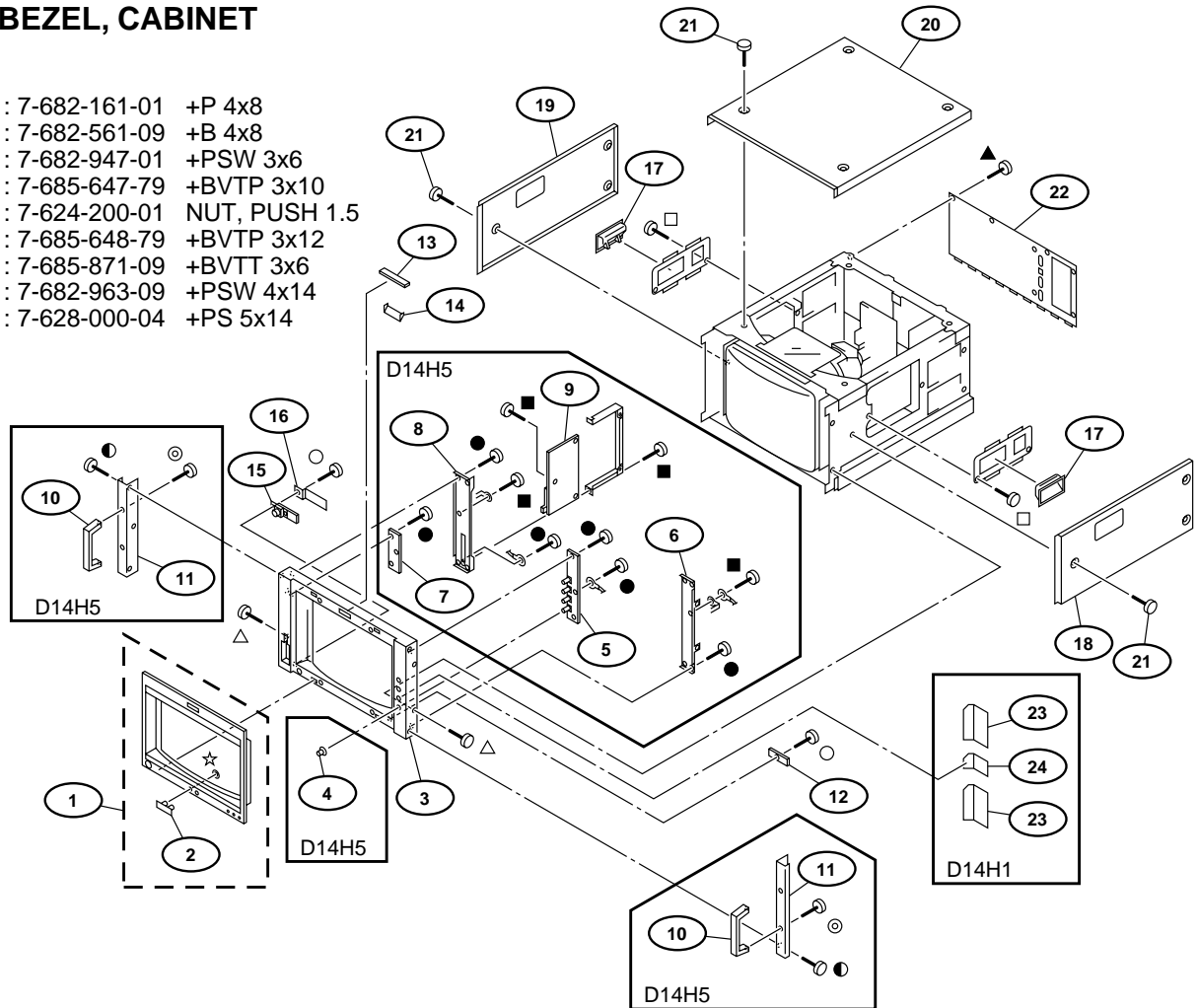
The components identified marked \triangle are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque \triangle sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- Items marked “*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.

8-1. BEZEL, CABINET

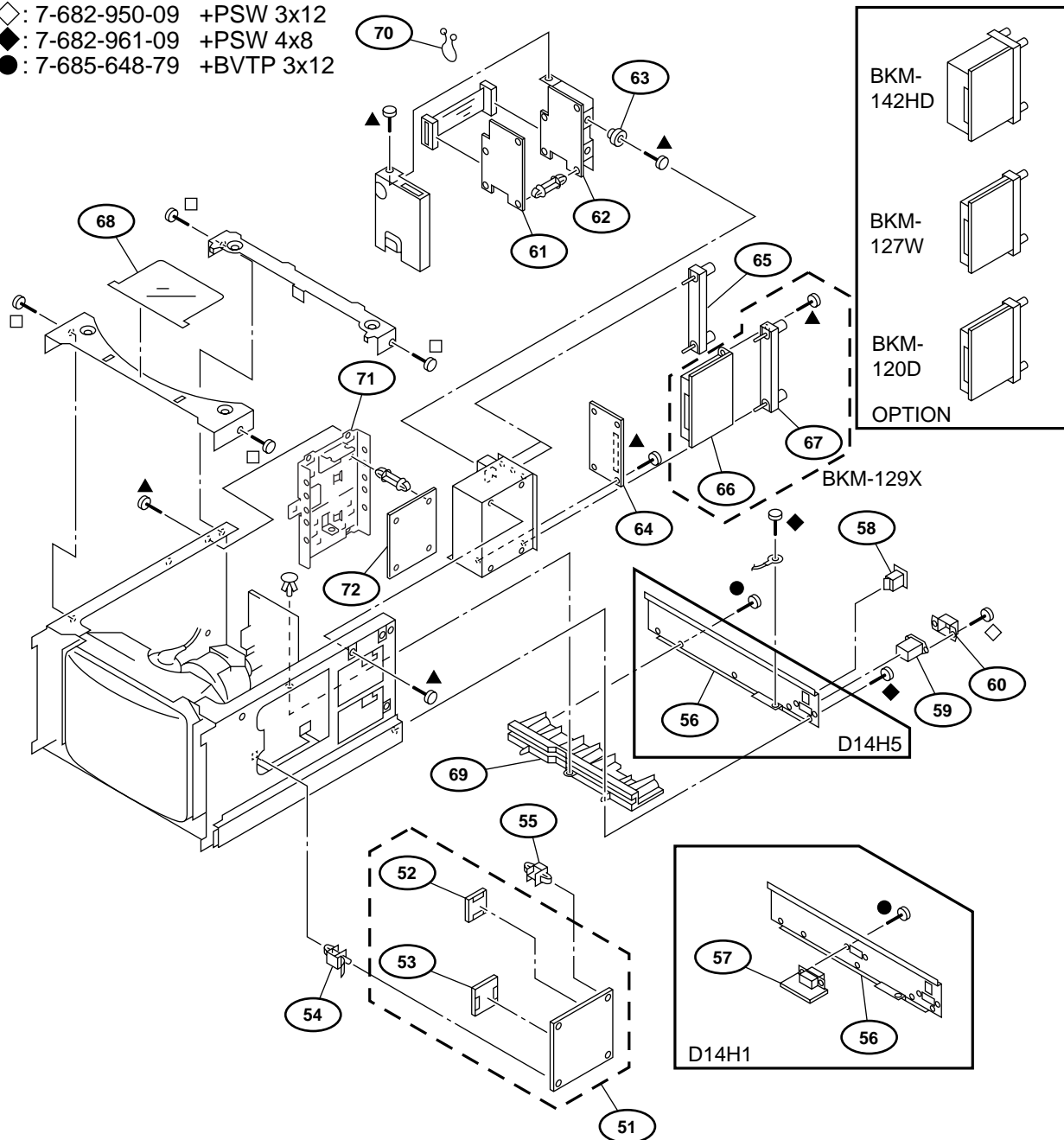
- \square : 7-682-161-01 +P 4x8
 \triangle : 7-682-561-09 +B 4x8
 \blacksquare : 7-682-947-01 +PSW 3x6
 \circ : 7-685-647-79 +BVTP 3x10
 \star : 7-624-200-01 NUT, PUSH 1.5
 \bullet : 7-685-648-79 +BVTP 3x12
 \blacktriangle : 7-685-871-09 +BVTT 3x6
 \odot : 7-682-963-09 +PSW 4x14
 \ominus : 7-628-000-04 +PS 5x14



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
1	X-4037-285-1	MASK (16:9) ASSY	2	14	* 4-050-876-01	PLATE, LIGHT INTERCEPTION	
2	* 3-718-322-02	EMBLEM, SONY		15	(* A-1373-743-A	YC MOUNT (D14H5)	
3	(X-4037-278-1	BEZEL ASSY (D14H5)			* A-1373-718-A	YC MOUNT (D14H1)	
4	X-4033-145-1	BEZEL ASSY (D14H1)		16	* 4-061-920-01	INSULATOR, YC	
	4-050-851-01	KNOB, CONTROL (D14H5)		17	4-043-825-01	HANDLE	
5	* A-1372-664-A	HA MOUNT (D14H5)		18	* 4-073-226-01	CABINET (R)	
6	* 4-050-925-04	BRACKET (RIGHT), BEZEL (D14H5)		19	* 4-073-227-01	CABINET (L)	
7	* A-1372-665-A	HB MOUNT (D14H5)		20	(4-050-931-01	CABINET (UPPER) (D14H5)	
8	* 4-050-924-04	BRACKET (LEFT), BEZEL (D14H5)			4-050-967-01	CABINET (UPPER) (D14H1)	
9	* A-1375-185-A	HC COMPL (D14H5)		21	4-063-969-01	SCREW (OS), CASE, CLAW	
10	* 4-337-212-11	HANDLE (D14H5)		22	(* 4-073-201-01	PANEL (UPPER), REAR (D14H5)	
11	4-050-922-01	BASE, HANDLE (D14H5)			* 4-073-228-01	PANEL (UPPER), REAR (D14H1)	
12	(* A-1373-742-A	YB MOUNT (D14H5)		23	* X-4033-276-1	GUARD ASSY, HARNESS (L) (D14H1)	
	(* A-1373-717-A	YB MOUNT (D14H1)		24	* X-4033-277-1	GUARD ASSY, HARNESS (S) (D14H1)	
13	* A-1373-716-A	YA MOUNT					

8-2. M BLOCK, SIGNAL BLOCK

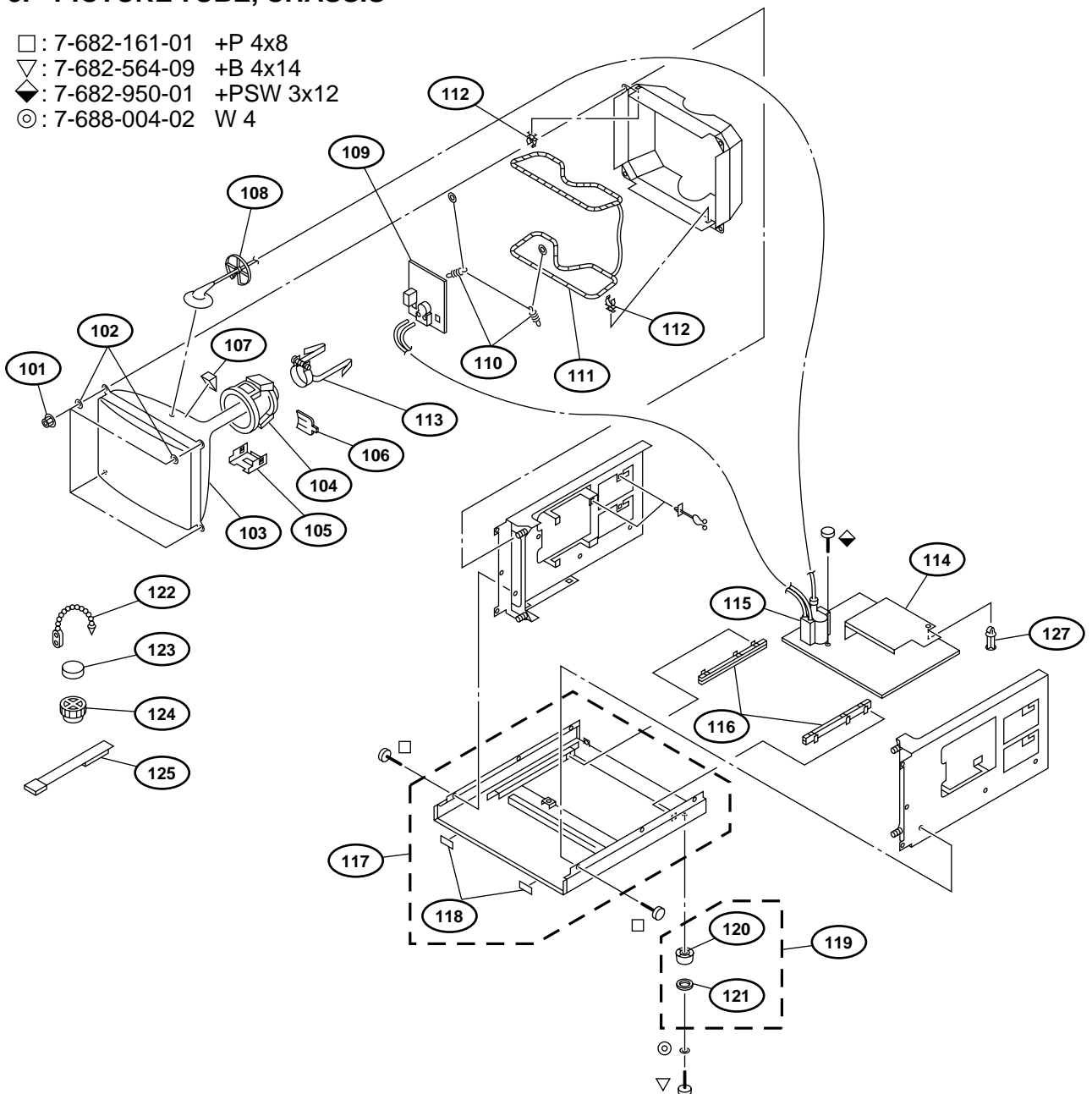
- ▲ : 7-685-871-09 +BVTT 3x6
 □ : 7-682-950-01 +PSW 3x12
 ◇ : 7-682-950-09 +PSW 3x12
 ◆ : 7-682-961-09 +PSW 4x8
 ● : 7-685-648-79 +BVTP 3x12



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
51	* A-1136-014-A	B COMPL	52,53	62	* A-1306-571-A	MB COMPL	
52	* A-1131-464-A	B2 MOUNT		63	* 4-073-210-01	COLLAR	
53	* A-1131-463-A	B1 MOUNT		64	* A-1390-942-A	T MOUNT	
54	* 3-703-141-00	HOLDER, PWB		65	* X-4037-166-1	PANEL ASSY, BLANK	
55	* 4-353-620-11	HINGE, PC BOARD		66	* A-1136-013-A	BX COMPL	
56	(* 4-073-208-01	PANEL (LOWER), REAR (D14H5)		67	* X-4037-154-1	PANEL ASSY, CONNECTOR	
	(* 4-073-232-01	PANEL(LOWER),REAR (D14H1)		68	* 4-050-913-02	INSULATOR (ANODE)	
57	* A-1372-136-A	HD MOUNT (D14H1)		69	* 4-074-026-01	HOLDER,G PWB	
58	△ 1-762-300-11	SWITCH, AC POWER SEESAW		70	3-701-417-02	PURSE LOCK (11 DIA.)	
59	△ 1-251-382-11	INLET, AC 3P(WITH NOISE FILTER)		71	* 4-074-027-01	BRACKET, G1	
60	2-990-241-02	HOLDER (A), PLUG		72	* A-1316-504-A	G1 COMPL	
61	* A-1306-572-A	MA COMPL					

8-3. PICTURE TUBE, CHASSIS

- : 7-682-161-01 +P 4x8
 ▽ : 7-682-564-09 +B 4x14
 ◆ : 7-682-950-01 +PSW 3x12
 ◎ : 7-688-004-02 W 4



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
101	4-306-034-00	NUT,(B) (M5), FLANGE		114	* A-1316-456-A	G COMPL	115
102	4-348-567-00	WASHER, CRT POSITION		115	△ X-4560-177-1	TRANSFORMER ASSY,FLYBACK (NX-4141/J1A4)	
103	△ 8-738-335-05	PICTURE TUBE M34LHF20X (For USA)		116	* 4-073-218-01	GUIDE, PWB	
103	△ 8-738-333-05	PICTURE TUBE M34LHF21X (For AEP,AUS)		117	* X-4037-279-1	CHASSIS ASSY, BOTTOM (D14H5)	118
104	△ 1-451-508-11	DEFLECTION YOKE		117	* X-4037-288-1	CHASSIS ASSY,BOTTOM (D14H1)	
105	4-053-410-02	SHIELD, DY		118	3-840-486-02	CUSHION, SPEAKER	
106	X-2105-533-1	PLATE ASSY, CORRECTION, TLH		119	X-4033-117-1	FOOT ASSY	120,121
107	4-050-492-01	SPACER, DY		120	X-4836-202-9	FOOT	
108	* 4-047-349-01	HOLDER, HV CABLE		121	* 3-668-845-01	CUSHION, LEG	
109	* A-1331-883-A	C MOUNT		122	4-308-870-00	CLIP,LEAD WIRE	
110	4-303-774-03	SPRING		123	1-452-032-00	MAGNET,DISC (10MMφ)	
111	△ 1-411-660-21	COIL, DEMAGNETIC		124	1-452-094-00	MAGNET,ROTATABLE DISK:15MMφ	
112	4-395-824-01	HOLDER, DEGAUSSING COIL		125	4-051-735-22	PIECE A(75), CONV. CORRECT	
113	* 4-382-050-01	BAND, C PC BOARD		127	* 3-687-542-41	SPACER, PC BOARD SPACE	

Section 9

Electrical Parts List

NOTE :

The components identified marked \triangle are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque \triangle sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.

RESISTORS

- All resistors are in ohms.
- F: nonflammable
- METAL: Metal-film resistor
- METAL OXIDE: Metal oxide-film resistor

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
* A-1136-014-A B COMPL ***** Including B1 and B2 MOUNT <CAPACITOR>				C461	1-126-390-11	ELECT CHIP 22 μ F	20% 6.3V
C300	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C462	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C301	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C463	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C304	1-104-760-11	CERAMIC CHIP 0.047 μ F	10% 50V	C464	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C305	1-163-021-91	CERAMIC CHIP 0.01 μ F	10% 50V	C465	1-126-394-11	ELECT CHIP 10 μ F	20% 16V
C306	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C466	1-126-394-11	ELECT CHIP 10 μ F	20% 16V
C307	1-164-505-11	CERAMIC CHIP 2.2 μ F	16V	C467	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C308	1-115-152-11	ELECT CHIP 22 μ F	20% 6.3V	C468	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C309	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C485	1-126-390-11	ELECT CHIP 22 μ F	20% 6.3V
C310	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C486	1-126-390-11	ELECT CHIP 22 μ F	20% 6.3V
C311	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C487	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C312	1-126-390-11	ELECT CHIP 22 μ F	20% 6.3V	C488	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C332	1-104-760-11	CERAMIC CHIP 0.047 μ F	10% 50V	C489	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C333	1-163-021-91	CERAMIC CHIP 0.01 μ F	10% 50V	C490	1-126-394-11	ELECT CHIP 10 μ F	20% 16V
C334	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C491	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C335	1-164-505-11	CERAMIC CHIP 2.2 μ F	16V	C492	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C336	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C494	1-126-396-11	ELECT CHIP 47 μ F	20% 16V
C337	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C1300	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C338	1-115-152-11	ELECT CHIP 22 μ F	20% 6.3V	C1301	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C339	1-164-505-11	CERAMIC CHIP 2.2 μ F	16V	C1302	1-163-087-00	CERAMIC CHIP 4PF	0.25PF 50V
C340	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C1304	1-104-760-11	CERAMIC CHIP 0.047 μ F	10% 50V
C341	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C1305	1-163-021-91	CERAMIC CHIP 0.01 μ F	10% 50V
C367	1-104-760-11	CERAMIC CHIP 0.047 μ F	10% 50V	C1306	1-109-982-11	CERAMIC CHIP 1 μ F	10% 10V
C368	1-163-021-91	CERAMIC CHIP 0.01 μ F	10% 50V	C1307	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C369	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C1308	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C370	1-164-505-11	CERAMIC CHIP 2.2 μ F	16V	C1309	1-164-505-11	CERAMIC CHIP 2.2 μ F	16V
C371	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C1310	1-164-346-11	CERAMIC CHIP 1 μ F	16V
C372	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C1320	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C373	1-115-152-11	ELECT CHIP 22 μ F	20% 6.3V	C1321	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C374	1-164-505-11	CERAMIC CHIP 2.2 μ F	16V	C1322	1-163-091-00	CERAMIC CHIP 8PF	0.25PF 50V
C375	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C1324	1-104-760-11	CERAMIC CHIP 0.047 μ F	10% 50V
C376	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C1325	1-163-021-91	CERAMIC CHIP 0.01 μ F	10% 50V
C377	1-126-396-11	ELECT CHIP 47 μ F	20% 16V	C1326	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C378	1-126-396-11	ELECT CHIP 47 μ F	20% 16V	C1327	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C386	1-126-916-11	ELECT 1000 μ F	20% 6.3V	C1330	1-164-346-11	CERAMIC CHIP 1 μ F	16V
C387	1-126-916-11	ELECT 1000 μ F	20% 6.3V	C1340	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C450	1-126-394-11	ELECT CHIP 10 μ F	20% 16V	C1341	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
C451	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C1342	1-163-086-00	CERAMIC CHIP 3PF	0.25PF 50V
C452	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V	C1344	1-104-760-11	CERAMIC CHIP 0.047 μ F	10% 50V
C454	1-126-396-11	ELECT CHIP 47 μ F	20% 16V	C1345	1-163-021-91	CERAMIC CHIP 0.01 μ F	10% 50V
C460	1-126-390-11	ELECT CHIP 22 μ F	20% 6.3V	C1346	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
				C1347	1-163-031-11	CERAMIC CHIP 0.01 μ F	50V
				C1348	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
				C1350	1-164-346-11	CERAMIC CHIP 1 μ F	16V
				C1400	1-163-035-00	CERAMIC CHIP 0.047 μ F	50V

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
C1401	1-163-035-00	CERAMIC CHIP	0.047μF	50V		C3306	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C1402	1-163-035-00	CERAMIC CHIP	0.047μF	50V		C3307	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1404	1-163-031-11	CERAMIC CHIP	0.01μF	50V		C3308	1-164-346-11	CERAMIC CHIP	1μF		16V
C1405	1-163-035-00	CERAMIC CHIP	0.047μF	50V		C3309	1-126-390-11	ELECT CHIP	22μF	20%	6.3V
C1406	1-163-809-11	CERAMIC CHIP	0.047μF	10%	25V	C3311	1-163-038-91	CERAMIC CHIP	0.1μF		25V
C1407	1-163-809-11	CERAMIC CHIP	0.047μF	10%	25V	C3312	1-163-038-91	CERAMIC CHIP	0.1μF		25V
C1408	1-163-809-11	CERAMIC CHIP	0.047μF	10%	25V	C3313	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C1409	1-164-489-11	CERAMIC CHIP	0.22μF	10%	16V	C3314	1-163-038-91	CERAMIC CHIP	0.1μF		25V
C1410	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	C3316	1-163-038-91	CERAMIC CHIP	0.1μF		25V
C1411	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	C3332	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1412	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	C3333	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1413	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C3339	1-163-038-91	CERAMIC CHIP	0.1μF		25V
C1414	1-163-275-11	CERAMIC CHIP	0.001μF	5%	50V	C3341	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1415	1-163-038-91	CERAMIC CHIP	0.1μF		25V	C3342	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1416	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	C3344	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
C1417	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	C3350	1-164-005-11	CERAMIC CHIP	0.47μF		25V
C1418	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	C3402	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1419	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C3403	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1420	1-163-275-11	CERAMIC CHIP	0.001μF	5%	50V	C3405	1-163-038-91	CERAMIC CHIP	0.1μF		25V
C1421	1-163-038-91	CERAMIC CHIP	0.1μF		25V	C3406	1-164-182-11	CERAMIC CHIP	0.0033μF	10%	50V
C1422	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	C3407	1-164-344-11	CERAMIC CHIP	0.068μF	10%	25V
C1423	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	C3408	1-126-394-11	ELECT CHIP	10μF	20%	16V
C1424	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C3410	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
C1425	1-163-275-11	CERAMIC CHIP	0.001μF	5%	50V	C3411	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C1426	1-163-038-91	CERAMIC CHIP	0.1μF		25V	C3412	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
C1427	1-163-038-91	CERAMIC CHIP	0.1μF		25V	C3432	1-163-035-00	CERAMIC CHIP	0.047μF		50V
C1428	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	C3433	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1429	1-163-038-91	CERAMIC CHIP	0.1μF		25V	C4300	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1431	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C4302	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1450	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C4303	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1451	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C4350	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1460	1-164-005-11	CERAMIC CHIP	0.47μF		25V	C4351	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1461	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C4352	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1462	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C4353	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1464	1-164-005-11	CERAMIC CHIP	0.47μF		25V	C4354	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C1465	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C4355	1-126-396-11	ELECT CHIP	47μF	20%	16V
C1466	1-163-031-11	CERAMIC CHIP	0.01μF		50V	<CONNECTOR>					
C1467	1-126-935-11	ELECT	470μF	20%	16V	CN301	1-764-334-11	PLUG, CONNECTOR	11P		
C1468	1-126-396-11	ELECT CHIP	47μF	20%	16V	CN302	* 1-564-509-11	PLUG, CONNECTOR	6P		
C1469	1-126-396-11	ELECT CHIP	47μF	20%	16V	CN303	* 1-564-510-11	PLUG, CONNECTOR	7P		
C2300	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V	CN304	* 1-564-513-11	PLUG, CONNECTOR	10P		
C2310	1-126-396-11	ELECT CHIP	47μF	20%	16V	CN307	* 1-564-512-11	PLUG, CONNECTOR	9P		
C2311	1-163-031-11	CERAMIC CHIP	0.01μF		50V	CN308	* 1-564-512-11	PLUG, CONNECTOR	9P		
C2315	1-163-224-11	CERAMIC CHIP	7PF	0.5PF	50V	CN411	* 1-506-611-11	PIN, CONNECTOR	8P		
C2330	1-163-092-00	CERAMIC CHIP	9PF	0.25PF	50V	CN412	* 1-506-611-11	PIN, CONNECTOR	8P		
C2351	1-163-031-11	CERAMIC CHIP	0.01μF		50V	CN421	* 1-779-070-21	PIN, CONNECTOR	12P		
C2352	1-163-031-11	CERAMIC CHIP	0.01μF		50V	CN422	* 1-779-070-21	PIN, CONNECTOR	12P		
C2353	1-163-031-11	CERAMIC CHIP	0.01μF		50V	<DIODE>					
C2361	1-126-396-11	ELECT CHIP	47μF	20%	16V	D1400	8-719-073-01	DIODE MA111-(K8).S0			
C2362	1-163-031-11	CERAMIC CHIP	0.01μF		50V	D1401	8-719-073-01	DIODE MA111-(K8).S0			
C2363	1-126-396-11	ELECT CHIP	47μF	20%	16V	D1402	8-719-073-01	DIODE MA111-(K8).S0			
C2364	1-163-031-11	CERAMIC CHIP	0.01μF		50V	D1403	8-719-073-01	DIODE MA111-(K8).S0			
C2383	1-163-031-11	CERAMIC CHIP	0.01μF		50V	D1404	8-719-037-17	DIODE RD10SB3-T1			
C2384	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	D3301	8-719-016-74	DIODE 1SS352			
C2385	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	D3302	8-719-016-74	DIODE 1SS352			
C2386	1-163-031-11	CERAMIC CHIP	0.01μF		50V	D3307	8-719-800-76	DIODE 1SS226			
C2387	1-163-031-11	CERAMIC CHIP	0.01μF		50V	D3308	8-719-800-76	DIODE 1SS226			
C2388	1-163-031-11	CERAMIC CHIP	0.01μF		50V	D4401	8-719-158-09	DIODE RD4.7SB2			
C2389	1-163-031-11	CERAMIC CHIP	0.01μF		50V						
C2390	1-163-031-11	CERAMIC CHIP	0.01μF		50V						
C3301	1-126-394-11	ELECT CHIP	10μF	20%	16V						
C3302	1-163-251-11	CERAMIC CHIP	100PF	5%	50V						
C3303	1-163-251-11	CERAMIC CHIP	100PF	5%	50V						
C3304	1-163-257-11	CERAMIC CHIP	180PF	5%	50V						
C3305	1-163-251-11	CERAMIC CHIP	100PF	5%	50V						

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
	<IC>			Q453	8-729-112-65	TRANSISTOR 2SA1462-T1Y33	
IC300	8-759-011-65	IC MC74HC4053F		Q460	8-729-112-65	TRANSISTOR 2SA1462-Y33	
IC301	8-759-011-65	IC MC74HC4053F		Q461	8-729-107-31	TRANSISTOR 2SC3545-T43	
IC302	8-759-011-65	IC MC74HC4053F		Q462	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC303	8-759-981-48	IC TL082M		Q463	8-729-107-31	TRANSISTOR 2SC3545-T43	
IC304	8-759-981-48	IC TL082M		Q464	8-729-107-31	TRANSISTOR 2SC3545-T43	
				Q465	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
IC305	8-759-981-48	IC TL082M		Q466	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
IC306	8-752-054-80	IC CXA1521M		Q485	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC307	8-752-054-80	IC CXA1521M		Q486	8-729-107-31	TRANSISTOR 2SC3545-T43	
IC308	8-752-054-80	IC CXA1521M		Q487	8-729-107-31	TRANSISTOR 2SC3545-T43	
IC400	8-752-053-21	IC CXA1211M		Q1300	8-729-112-65	TRANSISTOR 2SA1462-Y33	
IC401	8-752-053-21	IC CXA1211M		Q1301	8-729-107-31	TRANSISTOR 2SC3545-T43	
IC1300	8-759-011-65	IC MC74HC4053F		Q1302	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1302	8-759-011-65	IC MC74HC4053F		Q1303	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1303	8-759-011-65	IC MC74HC4053F		Q1304	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1304	8-759-011-65	IC MC74HC4053F		Q1305	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
IC1305	8-759-981-48	IC TL082M		Q1320	8-729-112-65	TRANSISTOR 2SA1462-Y33	
IC1306	8-759-981-48	IC TL082M		Q1321	8-729-107-31	TRANSISTOR 2SC3545-T43	
IC1307	8-759-981-48	IC TL082M		Q1322	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1308	8-759-011-65	IC MC74HC4053F		Q1323	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC1309	8-759-011-65	IC MC74HC4053F		Q1340	8-729-112-65	TRANSISTOR 2SA1462-Y33	
IC1400	8-759-038-15	IC MC74HC4538AF		Q1341	8-729-107-31	TRANSISTOR 2SC3545-T43	
IC1401	8-752-067-05	IC CXA1739S		Q1342	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC2380	8-759-523-02	IC TC74HC4053AFT(EL)		Q1343	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC2381	8-759-523-02	IC TC74HC4053AFT(EL)		Q1400	1-801-806-11	TRANSISTOR DTC144EKA-T146	
IC2382	8-759-988-13	IC LM393PS		Q1401	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC2383	8-759-083-94	IC TC7W74FU		Q1402	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
IC3301	8-759-523-02	IC TC74HC4053AFT(EL)		Q1410	8-729-112-65	TRANSISTOR 2SA1462-Y33	
IC3400	8-759-424-13	IC MC74HC00AFEL		Q1411	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC3401	8-759-032-14	IC MC74HC08AF		Q1412	8-729-112-65	TRANSISTOR 2SA1462-Y33	
IC3403	8-759-328-12	IC Z8622812PSC		Q1413	8-729-107-31	TRANSISTOR 2SC3545-T43	
IC3404	8-759-527-74	IC M24C02-MN6T		Q1414	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC3406	8-759-084-79	IC TC7S14F		Q1420	8-729-112-65	TRANSISTOR 2SA1462-Y33	
IC3407	8-759-242-76	IC TC7W08F		Q1421	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC4300	8-752-072-94	IC CXA1875AM-T4		Q1422	8-729-112-65	TRANSISTOR 2SA1462-Y33	
IC4301	8-752-072-94	IC CXA1875AM-T4		Q1423	8-729-107-31	TRANSISTOR 2SC3545-T43	
IC4302	8-752-072-94	IC CXA1875AM-T4		Q1424	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC4350	8-752-072-94	IC CXA1875AM-T4		Q1430	8-729-112-65	TRANSISTOR 2SA1462-Y33	
IC4351	8-759-482-47	IC M62399FP-TE2		Q1431	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
IC4352	8-759-482-47	IC M62399FP-TE2		Q1432	8-729-112-65	TRANSISTOR 2SA1462-Y33	
	<COIL>			Q1433	8-729-107-31	TRANSISTOR 2SC3545-T43	
L300	1-406-665-11	CHOKE 100μH		Q1434	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
	<TRANSISTOR>			Q1460	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q300	8-729-112-65	TRANSISTOR 2SA1462-Y33		Q1461	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q301	8-729-107-31	TRANSISTOR 2SC3545-T43		Q1462	1-801-806-11	TRANSISTOR DTC144EKA-T146	
Q302	8-729-920-59	TRANSISTOR IMX2-T109		Q1463	8-729-900-53	TRANSISTOR DTC114EK	
Q303	8-729-107-31	TRANSISTOR 2SC3545-T43		Q2300	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q304	8-729-107-31	TRANSISTOR 2SC3545-T43		Q2301	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q330	8-729-112-65	TRANSISTOR 2SA1462-Y33		Q2302	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q331	8-729-107-31	TRANSISTOR 2SC3545-T43		Q2303	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q332	8-729-920-59	TRANSISTOR IMX2-T109		Q2315	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q333	8-729-107-31	TRANSISTOR 2SC3545-T43		Q2316	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q334	8-729-107-31	TRANSISTOR 2SC3545-T43		Q2317	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q365	8-729-112-65	TRANSISTOR 2SA1462-Y33		Q2318	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q366	8-729-107-31	TRANSISTOR 2SC3545-T43		Q2330	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q367	8-729-920-59	TRANSISTOR IMX2-T109		Q2331	8-729-107-31	TRANSISTOR 2SC3545-T43	
Q368	8-729-107-31	TRANSISTOR 2SC3545-T43		Q2332	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q369	8-729-107-31	TRANSISTOR 2SC3545-T43		Q2333	8-729-112-65	TRANSISTOR 2SA1462-Y33	
Q450	8-729-120-28	TRANSISTOR 2SC1623-L5L6		Q2380	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q451	8-729-107-31	TRANSISTOR 2SC3545-T43		Q2381	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q452	8-729-107-31	TRANSISTOR 2SC3545-T43		Q2382	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
				Q2383	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
				Q3301	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	
				Q3302	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR	

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
Q3303	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R351	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
Q3304	8-729-920-59	TRANSISTOR IMX2-T109				R353	1-216-089-91	RES,CHIP	47K	5%	1/10W
						R354	1-216-025-91	RES,CHIP	100	5%	1/10W
Q3305	8-729-920-59	TRANSISTOR IMX2-T109				R355	1-216-057-91	RES,CHIP	2.2K	5%	1/10W
Q3306	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R356	1-216-033-00	RES,CHIP	220	5%	1/10W
Q3307	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR									
Q3308	8-729-107-31	TRANSISTOR 2SC3545-T43				R365	1-216-049-91	RES,CHIP	1K	5%	1/10W
Q3309	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R366	1-216-025-91	RES,CHIP	100	5%	1/10W
						R367	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
Q3310	8-729-925-42	TRANSISTOR IMT2				R368	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
Q3311	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R370	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
Q3312	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR									
Q3313	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R371	1-216-025-91	RES,CHIP	100	5%	1/10W
Q3314	8-729-920-59	TRANSISTOR IMX2-T109				R372	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
						R373	1-216-025-91	RES,CHIP	100	5%	1/10W
Q3315	8-729-112-65	TRANSISTOR 2SA1462-Y33				R374	1-216-049-91	RES,CHIP	1K	5%	1/10W
Q3316	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R375	1-216-049-91	RES,CHIP	1K	5%	1/10W
Q3317	8-729-925-42	TRANSISTOR IMT2									
Q3318	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR				R376	1-216-025-91	RES,CHIP	100	5%	1/10W
Q3319	8-729-120-28	TRANSISTOR 2SC1623-L5L6				R377	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
						R378	1-218-776-11	METAL CHIP	1M	0.50%	1/10W
Q3402	1-801-806-11	TRANSISTOR DTC144EKA-T146				R379	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
						R380	1-218-770-11	METAL CHIP	560K	0.50%	1/10W
		<RESISTOR>									
R300	1-216-049-91	RES,CHIP	1K	5%	1/10W	R381	1-216-033-00	RES,CHIP	220	5%	1/10W
R301	1-216-025-91	RES,CHIP	100	5%	1/10W	R382	1-216-025-91	RES,CHIP	100	5%	1/10W
R302	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	R383	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R303	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R384	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R305	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	R385	1-218-759-11	METAL CHIP	200K	0.50%	1/10W
R306	1-216-025-91	RES,CHIP	100	5%	1/10W	R386	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
R307	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	R388	1-216-089-91	RES,CHIP	47K	5%	1/10W
R308	1-216-025-91	RES,CHIP	100	5%	1/10W	R389	1-216-025-91	RES,CHIP	100	5%	1/10W
R309	1-216-049-91	RES,CHIP	1K	5%	1/10W	R390	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R310	1-216-049-91	RES,CHIP	1K	5%	1/10W	R391	1-216-033-00	RES,CHIP	220	5%	1/10W
R311	1-216-029-00	RES,CHIP	150	5%	1/10W	R450	1-216-025-91	RES,CHIP	100	5%	1/10W
R312	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R451	1-216-049-91	RES,CHIP	1K	5%	1/10W
R313	1-218-776-11	METAL CHIP	1M	0.50%	1/10W	R452	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R314	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R453	1-216-649-11	METAL CHIP	820	0.50%	1/10W
R315	1-218-764-11	METAL CHIP	330K	0.50%	1/10W	R454	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R316	1-216-033-00	RES,CHIP	220	5%	1/10W	R455	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R317	1-216-025-91	RES,CHIP	100	5%	1/10W	R456	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R318	1-216-053-00	RES,CHIP	1.5K	5%	1/10W	R457	1-216-029-91	RES,CHIP	150	5%	1/10W
R319	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	R458	1-216-025-91	RES,CHIP	100	5%	1/10W
R320	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	R459	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R321	1-216-089-91	RES,CHIP	47K	5%	1/10W	R460	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R322	1-216-681-11	METAL CHIP	18K	0.50%	1/10W	R461	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R323	1-216-025-91	RES,CHIP	100	5%	1/10W	R462	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R324	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R463	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R325	1-216-037-00	RES,CHIP	330	5%	1/10W	R464	1-216-660-11	METAL CHIP	2.4K	0.50%	1/10W
R330	1-216-049-91	RES,CHIP	1K	5%	1/10W	R465	1-216-668-11	METAL CHIP	5.1K	0.50%	1/10W
R331	1-216-025-91	RES,CHIP	100	5%	1/10W	R466	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R332	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	R467	1-216-649-11	METAL CHIP	820	0.50%	1/10W
R333	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R468	1-216-045-00	RES,CHIP	680	5%	1/10W
R335	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	R469	1-216-045-00	RES,CHIP	680	5%	1/10W
R336	1-216-025-91	RES,CHIP	100	5%	1/10W	R470	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R337	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	R471	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R338	1-216-025-91	RES,CHIP	100	5%	1/10W	R472	1-216-025-91	RES,CHIP	100	5%	1/10W
R339	1-216-049-91	RES,CHIP	1K	5%	1/10W	R473	1-216-049-91	RES,CHIP	1K	5%	1/10W
R340	1-216-049-91	RES,CHIP	1K	5%	1/10W	R474	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R341	1-216-025-91	RES,CHIP	100	5%	1/10W	R475	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R342	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R476	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R343	1-218-776-11	METAL CHIP	1M	0.50%	1/10W	R477	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R344	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R478	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R345	1-218-770-11	METAL CHIP	560K	0.50%	1/10W	R479	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R346	1-216-033-00	RES,CHIP	220	5%	1/10W	R480	1-216-025-91	RES,CHIP	100	5%	1/10W
R347	1-216-025-91	RES,CHIP	100	5%	1/10W	R481	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R348	1-216-053-00	RES,CHIP	1.5K	5%	1/10W	R482	1-216-025-91	RES,CHIP	100	5%	1/10W
R349	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	R483	1-216-645-11	METAL CHIP	560	0.50%	1/10W
R350	1-218-759-11	METAL CHIP	200K	0.50%	1/10W	R484	1-216-013-91	RES,CHIP	33	5%	1/10W

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
R485	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	R1400	1-216-025-91	RES,CHIP	100	5%	1/10W
R486	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W	R1401	1-216-295-91	SHORT	0		
R487	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	R1402	1-216-073-00	RES,CHIP	10K	5%	1/10W
R488	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R1405	1-216-025-91	RES,CHIP	100	5%	1/10W
R489	1-216-025-91	RES,CHIP	100	5%	1/10W	R1406	1-216-025-91	RES,CHIP	100	5%	1/10W
R490	1-216-049-91	RES,CHIP	1K	5%	1/10W	R1407	1-216-025-91	RES,CHIP	100	5%	1/10W
R491	1-216-647-11	METAL CHIP	680	0.50%	1/10W	R1408	1-216-049-91	RES,CHIP	1K	5%	1/10W
R492	1-216-647-11	METAL CHIP	680	0.50%	1/10W	R1409	1-216-049-91	RES,CHIP	1K	5%	1/10W
R493	1-216-647-11	METAL CHIP	680	0.50%	1/10W	R1410	1-216-025-91	RES,CHIP	100	5%	1/10W
R494	1-216-645-11	METAL CHIP	560	0.50%	1/10W	R1411	1-216-085-00	RES,CHIP	33K	5%	1/10W
R495	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R1412	1-216-089-91	RES,CHIP	47K	5%	1/10W
R497	1-216-025-91	RES,CHIP	100	5%	1/10W	R1413	1-216-085-00	RES,CHIP	33K	5%	1/10W
R498	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R1414	1-216-085-00	RES,CHIP	33K	5%	1/10W
R499	1-216-029-91	RES,CHIP	150	5%	1/10W	R1415	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1300	1-216-025-91	RES,CHIP	100	5%	1/10W	R1416	1-216-025-91	RES,CHIP	100	5%	1/10W
R1301	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R1417	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R1302	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	R1418	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1303	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	R1419	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1305	1-216-025-91	RES,CHIP	100	5%	1/10W	R1420	1-216-095-00	RES,CHIP	82K	5%	1/10W
R1306	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	R1421	1-216-041-00	RES,CHIP	470	5%	1/10W
R1307	1-216-025-91	RES,CHIP	100	5%	1/10W	R1422	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1308	1-216-049-91	RES,CHIP	1K	5%	1/10W	R1423	1-216-041-00	RES,CHIP	470	5%	1/10W
R1309	1-218-776-11	METAL CHIP	1M	0.50%	1/10W	R1424	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1310	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R1425	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1311	1-216-073-00	RES,CHIP	10K	5%	1/10W	R1426	1-216-025-91	RES,CHIP	100	5%	1/10W
R1312	1-216-073-00	RES,CHIP	10K	5%	1/10W	R1427	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R1313	1-216-025-91	RES,CHIP	100	5%	1/10W	R1428	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1314	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R1429	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1315	1-216-295-91	SHORT	0			R1430	1-216-095-00	RES,CHIP	82K	5%	1/10W
R1316	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R1431	1-216-041-00	RES,CHIP	470	5%	1/10W
R1317	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	R1432	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1318	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R1433	1-216-041-00	RES,CHIP	470	5%	1/10W
R1319	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R1434	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1320	1-216-025-91	RES,CHIP	100	5%	1/10W	R1435	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1321	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R1436	1-216-025-91	RES,CHIP	100	5%	1/10W
R1322	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	R1437	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R1323	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	R1438	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1325	1-216-025-91	RES,CHIP	100	5%	1/10W	R1439	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1326	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	R1440	1-216-095-00	RES,CHIP	82K	5%	1/10W
R1327	1-216-025-91	RES,CHIP	100	5%	1/10W	R1441	1-216-041-00	RES,CHIP	470	5%	1/10W
R1328	1-216-049-91	RES,CHIP	1K	5%	1/10W	R1442	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1329	1-218-776-11	METAL CHIP	1M	0.50%	1/10W	R1443	1-216-041-00	RES,CHIP	470	5%	1/10W
R1330	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R1444	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1331	1-216-025-91	RES,CHIP	100	5%	1/10W	R1445	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1332	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R1446	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1333	1-216-295-91	SHORT	0			R1447	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1334	1-216-073-00	RES,CHIP	10K	5%	1/10W	R1450	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R1335	1-216-073-00	RES,CHIP	10K	5%	1/10W	R1451	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1340	1-216-025-91	RES,CHIP	100	5%	1/10W	R1452	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R1341	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R1453	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R1342	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	R1454	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R1343	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	R1455	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1345	1-216-025-91	RES,CHIP	100	5%	1/10W	R1456	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1346	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	R1457	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1347	1-216-025-91	RES,CHIP	100	5%	1/10W	R1460	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1348	1-216-049-91	RES,CHIP	1K	5%	1/10W	R1461	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1349	1-218-776-11	METAL CHIP	1M	0.50%	1/10W	R1464	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R1350	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R1466	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1351	1-216-025-91	RES,CHIP	100	5%	1/10W	R1467	1-216-083-00	RES,CHIP	27K	5%	1/10W
R1352	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R1469	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1353	1-216-295-91	SHORT	0			R1470	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R1354	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	R1471	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R1355	1-216-691-11	METAL CHIP	47K	0.50%	1/10W	R1472	1-218-768-11	METAL CHIP	470K	0.50%	1/10W
R1357	1-216-073-00	RES,CHIP	10K	5%	1/10W	R1473	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1358	1-216-073-00	RES,CHIP	10K	5%	1/10W	R1480	1-216-069-00	RES,CHIP	6.8K	5%	1/10W

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
R1481	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R3309	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1482	1-216-061-00	RES,CHIP	3.3K	5%	1/10W	R3310	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1483	1-216-089-91	RES,CHIP	47K	5%	1/10W	R3311	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1484	1-216-085-00	RES,CHIP	33K	5%	1/10W	R3312	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1485	1-216-073-00	RES,CHIP	10K	5%	1/10W	R3313	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R2300	1-216-025-91	RES,CHIP	100	5%	1/10W	R3314	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R2301	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R3315	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R2302	1-216-009-91	RES,CHIP	22	5%	1/10W	R3316	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R2303	1-216-035-00	RES,CHIP	270	5%	1/10W	R3317	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R2304	1-216-645-11	METAL CHIP	560	0.50%	1/10W	R3318	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R2305	1-216-643-11	METAL CHIP	470	0.50%	1/10W	R3319	1-216-083-00	RES,CHIP	27K	5%	1/10W
R2307	1-216-025-91	RES,CHIP	100	5%	1/10W	R3320	1-216-037-00	RES,CHIP	330	5%	1/10W
R2308	1-216-055-00	RES,CHIP	1.8K	5%	1/10W	R3321	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R2309	1-216-025-91	RES,CHIP	100	5%	1/10W	R3322	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2310	1-216-049-91	RES,CHIP	1K	5%	1/10W	R3323	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R2313	1-216-295-91	RES,CHIP	0			R3324	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R2314	1-216-615-91	METAL CHIP	33	0.5%	1/10W	R3325	1-216-041-00	RES,CHIP	470	5%	1/10W
R2315	1-216-025-91	RES,CHIP	100	5%	1/10W	R3326	1-216-029-00	RES,CHIP	150	5%	1/10W
R2316	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R3327	1-216-111-00	RES,CHIP	390K	5%	1/10W
R2317	1-216-009-91	RES,CHIP	22	5%	1/10W	R3328	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R2318	1-216-035-00	RES,CHIP	270	5%	1/10W	R3329	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
R2319	1-216-645-11	METAL CHIP	560	0.50%	1/10W	R3330	1-216-676-11	METAL CHIP	11K	0.50%	1/10W
R2320	1-216-643-11	METAL CHIP	470	0.50%	1/10W	R3331	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R2322	1-216-025-91	RES,CHIP	100	5%	1/10W	R3332	1-216-075-00	RES,CHIP	12K	5%	1/10W
R2323	1-216-055-00	RES,CHIP	1.8K	5%	1/10W	R3333	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W
R2324	1-216-025-91	RES,CHIP	100	5%	1/10W	R3334	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R2325	1-216-049-91	RES,CHIP	1K	5%	1/10W	R3335	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R2327	1-216-295-91	RES,CHIP	0			R3336	1-216-640-11	METAL CHIP	360	0.50%	1/10W
R2329	1-216-615-91	METAL CHIP	33	0.5%	1/10W	R3337	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R2330	1-216-025-91	RES,CHIP	100	5%	1/10W	R3338	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2331	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R3339	1-216-037-00	RES,CHIP	330	5%	1/10W
R2332	1-216-009-91	RES,CHIP	22	5%	1/10W	R3340	1-216-693-11	METAL CHIP	56K	0.50%	1/10W
R2333	1-216-035-00	RES,CHIP	270	5%	1/10W	R3341	1-218-768-11	METAL CHIP	470K	0.50%	1/10W
R2334	1-216-645-11	METAL CHIP	560	0.50%	1/10W	R3342	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2335	1-216-643-11	METAL CHIP	470	0.50%	1/10W	R3343	1-216-696-11	METAL CHIP	75K	0.50%	1/10W
R2337	1-216-025-91	RES,CHIP	100	5%	1/10W	R3344	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R2338	1-216-055-00	RES,CHIP	1.8K	5%	1/10W	R3345	1-216-073-00	RES,CHIP	10K	5%	1/10W
R2339	1-216-025-91	RES,CHIP	100	5%	1/10W	R3346	1-216-099-00	RES,CHIP	120K	5%	1/10W
R2340	1-216-049-91	RES,CHIP	1K	5%	1/10W	R3347	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R2342	1-216-295-91	RES,CHIP	0			R3381	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R2344	1-216-615-91	METAL CHIP	33	0.5%	1/10W	R3382	1-216-031-00	RES,CHIP	180	5%	1/10W
R2380	1-216-025-91	RES,CHIP	100	5%	1/10W	R3385	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2381	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R3400	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2382	1-216-025-91	RES,CHIP	100	5%	1/10W	R3401	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2383	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R3402	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2384	1-216-025-91	RES,CHIP	100	5%	1/10W	R3403	1-216-097-91	RES,CHIP	100K	5%	1/10W
R2385	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R3410	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2386	1-216-025-91	RES,CHIP	100	5%	1/10W	R3411	1-216-025-91	RES,CHIP	100	5%	1/10W
R2387	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R3412	1-216-025-91	RES,CHIP	100	5%	1/10W
R2388	1-216-073-00	RES,CHIP	10K	5%	1/10W	R3413	1-216-025-91	RES,CHIP	100	5%	1/10W
R2389	1-216-073-00	RES,CHIP	10K	5%	1/10W	R3414	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2390	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R3416	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2391	1-216-073-00	RES,CHIP	10K	5%	1/10W	R3417	1-216-049-91	RES,CHIP	1K	5%	1/10W
R2392	1-216-073-00	RES,CHIP	10K	5%	1/10W	R3418	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R2393	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R3419	1-216-049-91	RES,CHIP	1K	5%	1/10W
R3299	1-216-025-91	RES,CHIP	100	5%	1/10W	R3421	1-216-025-91	RES,CHIP	100	5%	1/10W
R3300	1-216-025-91	RES,CHIP	100	5%	1/10W	R3422	1-216-025-91	RES,CHIP	100	5%	1/10W
R3301	1-216-053-00	RES,CHIP	1.5K	5%	1/10W	R3423	1-216-025-91	RES,CHIP	100	5%	1/10W
R3302	1-216-079-00	RES,CHIP	18K	5%	1/10W	R3424	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3303	1-216-091-00	RES,CHIP	56K	5%	1/10W	R3425	1-216-073-00	RES,CHIP	10K	5%	1/10W
R3304	1-216-013-00	RES,CHIP	33	5%	1/10W	R3426	1-216-025-91	RES,CHIP	100	5%	1/10W
R3305	1-216-013-00	RES,CHIP	33	5%	1/10W	R3427	1-216-025-91	RES,CHIP	100	5%	1/10W
R3306	1-216-013-00	RES,CHIP	33	5%	1/10W	R3428	1-216-025-91	RES,CHIP	100	5%	1/10W
R3307	1-216-049-91	RES,CHIP	1K	5%	1/10W	R3429	1-216-025-91	RES,CHIP	100	5%	1/10W
R3308	1-216-049-91	RES,CHIP	1K	5%	1/10W	R3430	1-216-049-91	RES,CHIP	1K	5%	1/10W

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
R3431	1-216-295-91	SHORT	0			* A-1131-463-A B1 MOUNT					
R3433	1-216-025-91	RES,CHIP	100	5%	1/10W	*****					
R3434	1-216-025-91	RES,CHIP	100	5%	1/10W						
R4300	1-216-073-00	RES,CHIP	10K	5%	1/10W						
R4301	1-216-073-00	RES,CHIP	10K	5%	1/10W	<CAPACITOR>					
R4302	1-216-073-00	RES,CHIP	10K	5%	1/10W	C401	1-126-396-11	ELECT CHIP	47μF	20%	16V
R4303	1-216-073-00	RES,CHIP	10K	5%	1/10W	C402	1-126-396-11	ELECT CHIP	47μF	20%	16V
R4304	1-216-033-00	RES,CHIP	220	5%	1/10W	C403	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R4305	1-216-033-00	RES,CHIP	220	5%	1/10W	C404	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R4306	1-216-073-00	RES,CHIP	10K	5%	1/10W	C407	1-163-038-91	CERAMIC CHIP	0.1μF		25V
R4307	1-216-073-00	RES,CHIP	10K	5%	1/10W	C410	1-163-038-91	CERAMIC CHIP	0.1μF		25V
R4308	1-216-073-00	RES,CHIP	10K	5%	1/10W	C411	1-165-319-11	CERAMIC CHIP	0.1μF		50V
R4309	1-216-073-00	RES,CHIP	10K	5%	1/10W	C412	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R4310	1-216-033-00	RES,CHIP	220	5%	1/10W	C502	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R4311	1-216-033-00	RES,CHIP	220	5%	1/10W	C503	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R4312	1-216-073-00	RES,CHIP	10K	5%	1/10W						
R4313	1-216-073-00	RES,CHIP	10K	5%	1/10W	<CONNECTOR>					
R4314	1-216-073-00	RES,CHIP	10K	5%	1/10W						
R4315	1-216-049-91	RES,CHIP	1K	5%	1/10W	CN401	* 1-568-015-11	SOCKET, CONNECTOR	8P		
R4316	1-216-033-00	RES,CHIP	220	5%	1/10W	CN402	* 1-568-015-11	SOCKET, CONNECTOR	8P		
R4317	1-216-033-00	RES,CHIP	220	5%	1/10W						
R4320	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	<DELAY LINE>					
R4417	1-216-073-00	RES,CHIP	10K	5%	1/10W						
R4420	1-216-033-00	RES,CHIP	220	5%	1/10W	DL400	1-411-450-11	DELAY LINE			
R4423	1-216-073-00	RES,CHIP	10K	5%	1/10W	DL401	1-411-450-11	DELAY LINE			
						DL402	1-234-455-21	DELAY LINE			
R4426	1-216-033-00	RES,CHIP	220	5%	1/10W	DL403	1-234-455-21	DELAY LINE			
R4434	1-216-049-91	RES,CHIP	1K	5%	1/10W	DL404	1-411-451-11	DELAY LINE			
R4435	1-216-073-00	RES,CHIP	10K	5%	1/10W						
R4436	1-216-677-11	METAL CHIP	12K	0.50%	1/10W	DL405	1-234-456-21	DELAY LINE			
R4437	1-216-668-11	METAL CHIP	5.1K	0.50%	1/10W	DL501	1-402-770-11	DELAY LINE			
						DL502	1-416-476-21	DELAY LINE			
R4438	1-216-073-00	RES,CHIP	10K	5%	1/10W	DL503	1-402-770-11	DELAY LINE			
R4439	1-216-073-00	RES,CHIP	10K	5%	1/10W	DL504	1-416-476-21	DELAY LINE			
R4440	1-216-073-00	RES,CHIP	10K	5%	1/10W						
R4441	1-216-073-00	RES,CHIP	10K	5%	1/10W	<IC>					
R4442	1-216-073-00	RES,CHIP	10K	5%	1/10W						
R4443	1-216-033-00	RES,CHIP	220	5%	1/10W	IC410	8-759-011-65	IC MC74HC4053F			
R4444	1-216-033-00	RES,CHIP	220	5%	1/10W	IC450	8-752-053-21	IC CXA1211M			
R4445	1-216-071-00	RES,CHIP	8.2K	5%	1/10W	IC501	8-759-011-65	IC MC74HC4053F			
R4446	1-216-131-11	RES,CHIP	2.7M	5%	1/10W						
R4447	1-216-071-00	RES,CHIP	8.2K	5%	1/10W	<TRANSISTOR>					
R4448	1-216-071-00	RES,CHIP	8.2K	5%	1/10W						
R4449	1-216-131-11	RES,CHIP	2.7M	5%	1/10W	Q400	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
R4450	1-216-131-11	RES,CHIP	2.7M	5%	1/10W	Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
R4451	1-216-071-00	RES,CHIP	8.2K	5%	1/10W	Q402	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
R4452	1-216-131-11	RES,CHIP	2.7M	5%	1/10W	Q403	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
						Q404	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
R4453	1-216-073-00	RES,CHIP	10K	5%	1/10W						
R4454	1-216-033-00	RES,CHIP	220	5%	1/10W	Q405	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
R4455	1-216-033-00	RES,CHIP	220	5%	1/10W	Q406	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
R4456	1-216-073-00	RES,CHIP	10K	5%	1/10W	Q407	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
R4457	1-216-071-00	RES,CHIP	8.2K	5%	1/10W	Q408	8-729-107-31	TRANSISTOR 2SC3545-T43			
						Q409	8-729-107-31	TRANSISTOR 2SC3545-T43			
R4458	1-216-061-00	RES,CHIP	3.3K	5%	1/10W						
R4459	1-216-131-11	RES,CHIP	2.7M	5%	1/10W	Q410	1-801-806-11	TRANSISTOR DTC144EKA-T146			
R4460	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	Q411	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
R4461	1-216-071-00	RES,CHIP	8.2K	5%	1/10W	Q412	8-729-107-31	TRANSISTOR 2SC3545-T43			
R4462	1-216-131-11	RES,CHIP	2.7M	5%	1/10W	Q413	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
						Q414	8-729-107-31	TRANSISTOR 2SC3545-T43			
R4471	1-216-025-91	RES,CHIP	100	5%	1/10W						
R4472	1-216-025-91	RES,CHIP	100	5%	1/10W	Q501	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
						Q502	8-729-107-31	TRANSISTOR 2SC3545-T43			
						Q503	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
						Q504	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR			
						Q505	8-729-107-31	TRANSISTOR 2SC3545-T43			

						Q506	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
						Q511	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
						Q512	8-729-107-31	TRANSISTOR 2SC3545-T43			
						Q513	8-729-112-65	TRANSISTOR 2SA1462-T1Y33			
						Q514	8-729-107-31	TRANSISTOR 2SC3545-T43			

Ref.No.	Part No.	Description	Remark				Ref.No.	Part No.	Description	Remark			
Q515	8-729-120-28	TRANSISTOR 2SC1623-L5L6					R515	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
Q516	8-729-107-31	TRANSISTOR 2SC3545-T43											
Q517	8-729-112-65	TRANSISTOR 2SA1462-T1Y33					R516	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
Q518	8-729-107-31	TRANSISTOR 2SC3545-T43					R517	1-216-025-91	RES,CHIP	100	5%	1/10W	
							R518	1-216-025-91	RES,CHIP	100	5%	1/10W	
							R519	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
	<RESISTOR>						R520	1-216-025-91	RES,CHIP	100	5%	1/10W	
R400	1-216-025-91	RES,CHIP	100	5%	1/10W		R521	1-216-037-00	RES,CHIP	330	5%	1/10W	
R401	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		R522	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R402	1-216-651-11	METAL CHIP	1K	0.50%	1/10W		R523	1-216-631-11	METAL CHIP	150	0.50%	1/10W	
R403	1-216-025-91	RES,CHIP	100	5%	1/10W		R524	1-216-025-91	RES,CHIP	100	5%	1/10W	
R404	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		R531	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R405	1-216-651-11	METAL CHIP	1K	0.50%	1/10W		R532	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R406	1-216-025-91	RES,CHIP	100	5%	1/10W		R533	1-216-061-00	RES,CHIP	3.3K	5%	1/10W	
R407	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		R534	1-216-069-00	RES,CHIP	6.8K	5%	1/10W	
R408	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		R535	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R409	1-216-089-91	RES,CHIP	47K	5%	1/10W		R536	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R410	1-216-025-91	RES,CHIP	100	5%	1/10W		R537	1-216-025-91	RES,CHIP	100	5%	1/10W	
R411	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		R538	1-216-051-00	RES,CHIP	1.2K	5%	1/10W	
R412	1-216-643-11	METAL CHIP	470	0.50%	1/10W		R541	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R413	1-216-025-91	RES,CHIP	100	5%	1/10W		R542	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R414	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		R543	1-216-061-00	RES,CHIP	3.3K	5%	1/10W	
R415	1-216-643-11	METAL CHIP	470	0.50%	1/10W		R544	1-216-069-00	RES,CHIP	6.8K	5%	1/10W	
R416	1-216-025-91	RES,CHIP	100	5%	1/10W		R545	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R417	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		R546	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	
R418	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		R547	1-216-025-91	RES,CHIP	100	5%	1/10W	
R419	1-216-085-00	RES,CHIP	33K	5%	1/10W		R548	1-216-051-00	RES,CHIP	1.2K	5%	1/10W	
R420	1-216-025-91	RES,CHIP	100	5%	1/10W								
R421	1-216-651-11	METAL CHIP	1K	0.50%	1/10W								
R422	1-216-025-91	RES,CHIP	100	5%	1/10W		*****						
R423	1-216-025-91	RES,CHIP	100	5%	1/10W								
R424	1-216-643-11	METAL CHIP	470	0.50%	1/10W			* A-1131-464-A	B2 MOUNT				

R425	1-216-643-11	METAL CHIP	470	0.50%	1/10W								
R426	1-216-025-91	RES,CHIP	100	5%	1/10W								
R427	1-216-651-11	METAL CHIP	1K	0.50%	1/10W			<CAPACITOR>					
R428	1-216-057-00	RES,CHIP	2.2K	5%	1/10W								
R429	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		C3901	1-163-031-11	CERAMIC CHIP	0.01μF		50V	
							C3902	1-164-161-11	CERAMIC CHIP	0.0022μF	10%	50V	
R430	1-216-025-91	RES,CHIP	100	5%	1/10W		C3903	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
R431	1-216-025-91	RES,CHIP	100	5%	1/10W		C3904	1-163-017-00	CERAMIC CHIP	0.0047μF	10%	50V	
R432	1-216-061-00	RES,CHIP	3.3K	5%	1/10W		C3905	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	
R433	1-216-075-00	RES,CHIP	12K	5%	1/10W								
R434	1-216-065-91	RES,CHIP	4.7K	5%	1/10W		C3906	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	
							C3907	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
R435	1-216-051-00	RES,CHIP	1.2K	5%	1/10W		C3908	1-164-346-11	CERAMIC CHIP	1μF		16V	
R436	1-216-065-91	RES,CHIP	4.7K	5%	1/10W		C3909	1-163-259-91	CERAMIC CHIP	220PF	5%	50V	
R437	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		C3910	1-163-031-11	CERAMIC CHIP	0.01μF		50V	
R438	1-216-073-00	RES,CHIP	10K	5%	1/10W								
R439	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		C3912	1-163-127-00	CERAMIC CHIP	270PF	5%	50V	
							C3913	1-163-031-11	CERAMIC CHIP	0.01μF		50V	
R440	1-216-049-91	RES,CHIP	1K	5%	1/10W		C3914	1-163-031-11	CERAMIC CHIP	0.01μF		50V	
R441	1-216-295-91	SHORT	0				C3915	1-163-259-91	CERAMIC CHIP	220PF	5%	50V	
R442	1-216-025-91	RES,CHIP	100	5%	1/10W		C3916	1-163-031-11	CERAMIC CHIP	0.01μF		50V	
R443	1-216-025-91	RES,CHIP	100	5%	1/10W								
R444	1-216-025-91	RES,CHIP	100	5%	1/10W		C3917	1-163-031-11	CERAMIC CHIP	0.01μF		50V	
							C3918	1-163-031-11	CERAMIC CHIP	0.01μF		50V	
R501	1-216-025-91	RES,CHIP	100	5%	1/10W		C3919	1-163-031-11	CERAMIC CHIP	0.01μF		50V	
R502	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		C3920	1-163-031-11	CERAMIC CHIP	0.01μF		50V	
R503	1-216-651-11	METAL CHIP	1K	0.50%	1/10W		C3921	1-164-489-11	CERAMIC CHIP	0.22μF	10%	16V	
R504	1-216-651-11	METAL CHIP	1K	0.50%	1/10W								
R505	1-216-025-91	RES,CHIP	100	5%	1/10W		C3922	1-164-489-11	CERAMIC CHIP	0.22μF	10%	16V	
							C3923	1-163-031-11	CERAMIC CHIP	0.01μF		50V	
R506	1-216-025-91	RES,CHIP	100	5%	1/10W		C3924	1-163-031-11	CERAMIC CHIP	0.01μF		50V	
R507	1-216-057-00	RES,CHIP	2.2K	5%	1/10W								
R508	1-216-025-91	RES,CHIP	100	5%	1/10W			<CONNECTOR>					
R509	1-216-037-00	RES,CHIP	330	5%	1/10W								
R510	1-216-631-11	METAL CHIP	150	0.50%	1/10W								
R511	1-216-631-11	METAL CHIP	150	0.50%	1/10W		CN3901	* 1-573-896-11	SOCKET, CONNECTOR 12P				
R512	1-216-025-91	RES,CHIP	100	5%	1/10W		CN3902	* 1-573-896-11	SOCKET, CONNECTOR 12P				
R513	1-216-025-91	RES,CHIP	100	5%	1/10W								
R514	1-216-057-00	RES,CHIP	2.2K	5%	1/10W								

Ref.No.	Part No.	Description	Remark				Ref.No.	Part No.	Description	Remark			
<DIODE>							R3933	1-216-651-11	METAL CHIP	1K	0.50%	1/10W	
D3901	8-719-016-74	DIODE 1SS352					R3934	1-216-025-91	RES,CHIP	100	5%	1/10W	
D3902	8-719-016-74	DIODE 1SS352					R3935	1-216-049-91	RES,CHIP	1K	5%	1/10W	
D3903	8-719-016-74	DIODE 1SS352					R3936	1-216-097-91	RES,CHIP	100K	5%	1/10W	
D3904	8-719-016-74	DIODE 1SS352					R3937	1-216-025-91	RES,CHIP	100	5%	1/10W	
							R3938	1-216-073-00	RES,CHIP	10K	5%	1/10W	
<IC>							R3939	1-216-097-91	RES,CHIP	100K	5%	1/10W	
IC3901	8-759-239-34	IC TC74HC4538AF					R3940	1-216-073-00	RES,CHIP	10K	5%	1/10W	
IC3902	8-759-523-02	IC TC74HC4053AFT(EL)					R3941	1-216-049-91	RES,CHIP	1K	5%	1/10W	
IC3904	8-759-239-34	IC TC74HC4538AF					R3942	1-216-081-00	RES,CHIP	22K	5%	1/10W	
IC3905	8-759-100-96	IC UPC4558G2					R3943	1-216-055-00	RES,CHIP	1.8K	5%	1/10W	
IC3906	8-759-234-20	IC TC7S08F					R3944	1-216-049-91	RES,CHIP	1K	5%	1/10W	
							R3945	1-216-079-00	RES,CHIP	18K	5%	1/10W	
IC3907	8-759-035-90	IC SC7S02F					R3946	1-216-059-00	RES,CHIP	2.7K	5%	1/10W	
IC3908	8-759-082-61	IC TC4W53FU					R3947	1-216-089-91	RES,CHIP	47K	5%	1/10W	
							R3948	1-216-295-91	SHORT	0			
<TRANSISTOR>							*****						
Q3901	8-729-027-38	TRANSISTOR DTA144EKA-T146					* A-1136-013-A BX COMPL						
Q3902	8-729-027-38	TRANSISTOR DTA144EKA-T146					*****						
Q3903	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR											
Q3905	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR											
Q3906	8-729-027-38	TRANSISTOR DTA144EKA-T146											
							<CAPACITOR>						
Q3907	8-729-120-28	TRANSISTOR 2SC1623-L5L6					C010	1-128-526-11	ELECT	100μF	20%	16V	
Q3908	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR					C011	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
Q3909	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR					C012	1-128-526-11	ELECT	100μF	20%	16V	
Q3910	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR					C013	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
Q3911	1-801-806-11	TRANSISTOR DTC144EKA-T146					C014	1-128-526-11	ELECT	100μF	20%	16V	
Q3912	8-729-202-38	TRANSISTOR 2SC3326N-A					C015	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
Q3913	8-729-202-38	TRANSISTOR 2SC3326N-A					C016	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
Q3914	8-729-120-28	TRANSISTOR 2SC1623-L5L6					C017	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
Q3915	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR					C018	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
Q3916	8-729-120-28	TRANSISTOR 2SC1623-L5L6					C019	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
<RESISTOR>							C020	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3901	1-216-025-91	RES,CHIP	100	5%	1/10W		C021	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3902	1-216-025-91	RES,CHIP	100	5%	1/10W		C022	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3903	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W		C050	1-128-526-11	ELECT	100μF	20%	16V	
R3904	1-216-025-91	RES,CHIP	100	5%	1/10W		C051	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3905	1-218-754-11	METAL CHIP	120K	0.50%	1/10W		C052	1-128-526-11	ELECT	100μF	20%	16V	
R3906	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W		C053	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3907	1-218-754-11	METAL CHIP	120K	0.50%	1/10W		C054	1-128-526-11	ELECT	100μF	20%	16V	
R3908	1-216-059-00	RES,CHIP	2.7K	5%	1/10W		C055	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3909	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W		C056	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3910	1-216-699-91	METAL CHIP	100K	0.50%	1/10W		C057	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3912	1-216-057-00	RES,CHIP	2.2K	5%	1/10W		C058	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3913	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W		C059	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3914	1-216-025-91	RES,CHIP	100	5%	1/10W		C060	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3915	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W		C061	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3916	1-216-025-91	RES,CHIP	100	5%	1/10W		C062	1-163-038-91	CERAMIC CHIP	0.1μF		25V	
R3917	1-216-097-91	RES,CHIP	100K	5%	1/10W		C101	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
R3918	1-216-049-91	RES,CHIP	1K	5%	1/10W		C102	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
R3919	1-216-065-91	RES,CHIP	4.7K	5%	1/10W		C103	1-107-701-11	ELECT	47μF	20%	16V	
R3920	1-216-049-91	RES,CHIP	1K	5%	1/10W		C104	1-107-725-11	CERAMIC CHIP	0.1μF	10%	16V	
R3922	1-216-689-11	METAL CHIP	39K	0.50%	1/10W		C106	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	
R3923	1-216-025-91	RES,CHIP	100	5%	1/10W		C201	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
R3924	1-216-681-11	METAL CHIP	18K	0.50%	1/10W		C202	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
R3925	1-216-697-91	METAL CHIP	82K	0.50%	1/10W		C203	1-107-701-11	ELECT	47μF	20%	16V	
R3926	1-216-049-91	RES,CHIP	1K	5%	1/10W		C204	1-107-725-11	CERAMIC CHIP	0.1μF	10%	16V	
R3927	1-216-699-91	METAL CHIP	100K	0.50%	1/10W		C206	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	
R3928	1-216-025-91	RES,CHIP	100	5%	1/10W		C301	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V	
R3929	1-216-681-11	METAL CHIP	18K	0.50%	1/10W		C302	1-163-235-11	CERAMIC CHIP	22PF	5%	50V	
R3930	1-216-675-91	METAL CHIP	10K	0.50%	1/10W		C303	1-107-701-11	ELECT	47μF	20%	16V	
R3931	1-216-049-91	RES,CHIP	1K	5%	1/10W		C304	1-107-725-11	CERAMIC CHIP	0.1μF	10%	16V	
R3932	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W								

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
C306	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	R109	1-216-013-00	RES,CHIP	33	5%	1/10W
C401	1-163-091-00	CERAMIC CHIP	8PF	0.25PF	50V	R201	1-214-837-11	METAL	75	1%	1/2W
C402	1-163-235-11	CERAMIC CHIP	22PF	5%	50V						
C403	1-107-701-11	ELECT	47μF	20%	16V	R202	1-216-089-91	RES,CHIP	47K	5%	1/10W
C404	1-107-725-11	CERAMIC CHIP	0.1μF	10%	16V	R203	1-216-025-91	RES,CHIP	100	5%	1/10W
						R204	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
C501	1-128-526-11	ELECT	100μF	20%	16V	R205	1-216-097-91	RES,CHIP	100K	5%	1/10W
C502	1-163-038-91	CERAMIC CHIP	0.1μF		25V	R206	1-216-009-91	RES,CHIP	22	5%	1/10W
C503	1-163-038-91	CERAMIC CHIP	0.1μF		25V						
	<CONNECTOR>					R207	1-216-025-91	RES,CHIP	100	5%	1/10W
						R208	1-216-097-91	RES,CHIP	100K	5%	1/10W
						R209	1-216-013-00	RES,CHIP	33	5%	1/10W
						R301	1-214-837-11	METAL	75	1%	1/2W
CN001	* 1-774-523-11	PIN, CONNECTOR (PC BOARD) 64P				R302	1-216-089-91	RES,CHIP	47K	5%	1/10W
	<DIODE>										
D101	8-719-073-01	DIODE MA111-(K8).S0				R303	1-216-025-91	RES,CHIP	100	5%	1/10W
D102	8-719-073-01	DIODE MA111-(K8).S0				R304	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
D201	8-719-073-01	DIODE MA111-(K8).S0				R305	1-216-097-91	RES,CHIP	100K	5%	1/10W
D202	8-719-073-01	DIODE MA111-(K8).S0				R306	1-216-009-91	RES,CHIP	22	5%	1/10W
D301	8-719-073-01	DIODE MA111-(K8).S0				R307	1-216-025-91	RES,CHIP	100	5%	1/10W
D302	8-719-073-01	DIODE MA111-(K8).S0				R308	1-216-097-91	RES,CHIP	100K	5%	1/10W
D401	8-719-073-01	DIODE MA111-(K8).S0				R309	1-216-013-00	RES,CHIP	33	5%	1/10W
D402	8-719-073-01	DIODE MA111-(K8).S0				R401	1-214-837-11	METAL	75	1%	1/2W
D501	8-719-158-19	DIODE RD6.2SB				R402	1-216-089-91	RES,CHIP	47K	5%	1/10W
	<FILTER>					R403	1-216-049-91	RES,CHIP	1K	5%	1/10W
FL501	1-239-183-11	FILTER, EMI				R404	1-216-097-91	RES,CHIP	100K	5%	1/10W
FL502	1-239-480-11	FILTER, EMI				R405	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
FL503	1-239-480-11	FILTER, EMI				R406	1-216-009-91	RES,CHIP	22	5%	1/10W
	<IC>					R407	1-216-025-91	RES,CHIP	100	5%	1/10W
						R408	1-216-097-91	RES,CHIP	100K	5%	1/10W
IC010	8-759-460-74	IC BA05FP-E2				R409	1-216-013-00	RES,CHIP	33	5%	1/10W
IC050	8-759-539-89	IC LM2990SX-5.0				R410	1-216-097-91	RES,CHIP	100K	5%	1/10W
IC501	8-759-594-41	IC MB89613R-651				R501	1-216-097-91	RES,CHIP	100K	5%	1/10W
IC502	8-759-186-44	IC TC74VHC125F				R502	1-216-025-91	RES,CHIP	100	5%	1/10W
IC503	8-759-156-54	IC X25040SI				R503	1-216-025-91	RES,CHIP	100	5%	1/10W
	<TRANSISTOR>										
						R504	1-216-097-91	RES,CHIP	100K	5%	1/10W
Q101	8-729-112-65	TRANSISTOR 2SA1462-Y33				R505	1-216-025-91	RES,CHIP	100	5%	1/10W
Q102	8-729-027-38	TRANSISTOR DTA144EKA-T146				R506	1-216-097-91	RES,CHIP	100K	5%	1/10W
Q103	8-729-107-31	TRANSISTOR 2SC3545-T43				R507	1-216-025-91	RES,CHIP	100	5%	1/10W
Q201	8-729-112-65	TRANSISTOR 2SA1462-Y33				R508	1-216-097-91	RES,CHIP	100K	5%	1/10W
Q202	8-729-027-38	TRANSISTOR DTA144EKA-T146									
						R509	1-216-097-91	RES,CHIP	100K	5%	1/10W
Q203	8-729-107-31	TRANSISTOR 2SC3545-T43				R510	1-216-097-91	RES,CHIP	100K	5%	1/10W
Q301	8-729-112-65	TRANSISTOR 2SA1462-Y33				R511	1-216-097-91	RES,CHIP	100K	5%	1/10W
Q302	8-729-027-38	TRANSISTOR DTA144EKA-T146				R512	1-216-097-91	RES,CHIP	100K	5%	1/10W
Q303	8-729-107-31	TRANSISTOR 2SC3545-T43				R513	1-216-097-91	RES,CHIP	100K	5%	1/10W
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6									
						R514	1-216-097-91	RES,CHIP	100K	5%	1/10W
Q402	1-801-806-11	TRANSISTOR DTC144EKA-T146				R515	1-216-097-91	RES,CHIP	100K	5%	1/10W
Q403	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R				R516	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
Q404	8-729-027-38	TRANSISTOR DTA144EKA-T146				R517	1-216-097-91	RES,CHIP	100K	5%	1/10W
Q501	1-801-806-11	TRANSISTOR DTC144EKA-T146				R518	1-216-097-91	RES,CHIP	100K	5%	1/10W
	<RESISTOR>						<TERMINAL BOARD >				
R101	1-214-837-11	METAL	75	1%	1/2W	TB001	1-694-601-11	TERMINAL BOARD ASSY, I/O			
R102	1-216-089-91	RES,CHIP	47K	5%	1/10W		<TEST PIN>				
R103	1-216-025-91	RES,CHIP	100	5%	1/10W						
R104	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	TP001	* 1-537-864-11	PIN, POST			
R105	1-216-097-91	RES,CHIP	100K	5%	1/10W	TP010	* 1-537-864-11	PIN, POST			
							<CRYSTAL>				
R106	1-216-009-91	RES,CHIP	22	5%	1/10W						
R107	1-216-025-91	RES,CHIP	100	5%	1/10W	X501	1-578-689-21	VIBRATOR (8 MHz)			
R108	1-216-097-91	RES,CHIP	100K	5%	1/10W						

Ref.No.	Part No.	Description	Remark				Ref.No.	Part No.	Description	Remark			
	* A-1331-883-A	C MOUNT *****					D777	8-719-073-01	DIODE MA111-(K8).S0				
	4-373-933-01	SHEET (TRANSISTOR), BN					D778	8-719-157-72	DIODE RD22M-B				
	4-382-854-11	SCREW (M3X10), P, SW (+)						<SOCKET>					
	<CAPACITOR>						J701	△ 1-251-116-11	SOCKET, CRT				
								<COIL>					
C701	1-107-963-11	ELECT	33μF	20%	250V								
C702	1-162-116-00	CERAMIC	680PF	10%	2KV								
C703	1-136-627-11	FILM	0.022μF	3%	1KV	L701	1-412-532-11	INDUCTOR	39μH				
C704	1-162-114-00	CERAMIC	4700PF		2KV	L730	1-408-597-31	INDUCTOR	3.3μH				
C730	1-102-110-00	CERAMIC	220PF	10%	50V	L750	1-408-597-31	INDUCTOR	3.3μH				
						L770	1-408-597-31	INDUCTOR	3.3μH				
C731	1-107-888-11	ELECT	47μF	20%	25V								
C732	1-163-031-11	CERAMIC CHIP	0.01μF		50V								
C733	1-163-031-11	CERAMIC CHIP	0.01μF		50V								
C734	1-107-963-11	ELECT	33μF	20%	250V								
C735	1-102-050-00	CERAMIC	0.01μF	99%	500V								
C750	1-102-110-00	CERAMIC	220PF	10%	50V	Q701	8-729-903-68	TRANSISTOR 2SD982					
C751	1-107-888-11	ELECT	47μF	20%	25V	Q730	8-729-809-22	TRANSISTOR 2SC3950-D					
C752	1-163-031-11	CERAMIC CHIP	0.01μF		50V	Q731	8-729-821-02	TRANSISTOR 2SC3503-DE					
C753	1-163-031-11	CERAMIC CHIP	0.01μF		50V	Q732	8-729-801-88	TRANSISTOR 2SA1381-E					
C754	1-107-963-11	ELECT	33μF	20%	250V	Q733	8-729-821-02	TRANSISTOR 2SC3503-DE					
C755	1-102-050-00	CERAMIC	0.01μF	99%	500V	Q734	8-729-033-31	TRANSISTOR 2SK520K44K45-T1B					
C770	1-102-110-00	CERAMIC	220PF	10%	50V	Q735	8-729-105-08	TRANSISTOR 2SA1330-06					
C771	1-107-888-11	ELECT	47μF	20%	25V	Q750	8-729-809-22	TRANSISTOR 2SC3950-D					
C772	1-163-031-11	CERAMIC CHIP	0.01μF		50V	Q751	8-729-821-02	TRANSISTOR 2SC3503-DE					
C773	1-163-031-11	CERAMIC CHIP	0.01μF		50V	Q752	8-729-801-88	TRANSISTOR 2SA1381-E					
C774	1-107-963-11	ELECT	33μF	20%	250V	Q753	8-729-821-02	TRANSISTOR 2SC3503-DE					
C775	1-102-050-00	CERAMIC	0.01μF	99%	500V	Q754	8-729-033-31	TRANSISTOR 2SK520K44K45-T1B					
C777	1-102-514-11	CERAMIC	22PF	5%	50V	Q755	8-729-105-08	TRANSISTOR 2SA1330-06					
C778	1-102-518-11	CERAMIC	33PF	5%	50V	Q770	8-729-809-22	TRANSISTOR 2SC3950-D					
						Q771	8-729-821-02	TRANSISTOR 2SC3503-DE					
						Q772	8-729-801-88	TRANSISTOR 2SA1381-E					
						Q773	8-729-821-02	TRANSISTOR 2SC3503-DE					
						Q774	8-729-033-31	TRANSISTOR 2SK520K44K45-T1B					
						Q775	8-729-105-08	TRANSISTOR 2SA1330-06					

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
R756	1-216-017-91	RES,CHIP	47	5%	1/10W	C512	1-126-964-11	ELECT	10μF	20%	50V
R757	1-215-892-11	METAL OXIDE	1K	5%	2W F	C513	1-126-968-11	ELECT	100μF	20%	50V
						C514	1-163-017-00	CERAMIC CHIP	0.0047μF	10%	50V
R758	1-216-013-00	RES,CHIP	33	5%	1/10W	C515	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
R759	1-216-013-00	RES,CHIP	33	5%	1/10W	C516	1-126-959-11	ELECT	0.47μF	20%	50V
R761	1-216-689-11	RES,CHIP	39K	5%	1/10W						
R762	1-216-085-00	RES,CHIP	33K	5%	1/10W	C517	1-163-037-11	CERAMIC CHIP	0.022μF	10%	50V
R763	1-216-085-00	RES,CHIP	33K	5%	1/10W	C518	1-126-967-11	ELECT	47μF	20%	50V
						C519	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
R764	1-216-033-00	RES,CHIP	220	5%	1/10W	C520	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V
R765	1-219-744-11	CARBON	220	5%	1/2W	C521	1-164-222-11	CERAMIC CHIP	0.22μF		25V
R766	1-219-747-91	CARBON	2.2K	5%	1/2W						
R771	1-216-025-91	RES,CHIP	100	5%	1/10W	C522	1-164-346-11	CERAMIC CHIP	1μF		16V
R772	1-214-844-81	METAL	150	1%	1/2W	C523	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
						C524	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
R773	1-215-381-00	METAL	22	1%	1/4W	C525	1-164-489-11	CERAMIC CHIP	0.22μF	10%	16V
R774	1-219-688-11	METAL	2.7K	1%	10W	C526	1-107-823-11	CERAMIC CHIP	0.47μF	10%	16V
R775	1-216-017-91	RES,CHIP	47	5%	1/10W						
R776	1-216-017-91	RES,CHIP	47	5%	1/10W	C527	1-126-968-11	ELECT	100μF	20%	50V
R777	1-215-892-11	METAL OXIDE	1K	5%	2W F	C528	1-163-031-11	CERAMIC CHIP	0.01μF		50V
						C529	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
R778	1-216-013-00	RES,CHIP	33	5%	1/10W	C530	1-126-968-11	ELECT	100μF	20%	50V
R779	1-216-013-00	RES,CHIP	33	5%	1/10W	C531	1-164-344-11	CERAMIC CHIP	0.068μF	10%	25V
R781	1-216-689-11	RES,CHIP	39K	5%	1/10W						
R782	1-216-085-00	RES,CHIP	33K	5%	1/10W	C534	1-124-234-00	ELECT	22μF	20%	16V
R783	1-216-085-00	RES,CHIP	33K	5%	1/10W	C536	1-126-967-11	ELECT	47μF	20%	50V
						C537	1-163-038-91	CERAMIC CHIP	0.1μF		25V
R784	1-216-033-00	RES,CHIP	220	5%	1/10W	C538	1-102-119-00	CERAMIC	0.0015μF	10%	50V
R785	1-219-744-11	CARBON	220	5%	1/2W	C539	1-163-023-00	CERAMIC CHIP	0.015μF	10%	50V
R786	1-219-747-91	CARBON	2.2K	5%	1/2W	C546	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R788	1-202-816-11	SOLID	68K	10%	1/2W						
<VARIABLE RESISTOR>						C547	1-164-161-11	CERAMIC CHIP	0.0022μF	10%	50V
RV701	△ 1-241-714-11	RES, ADJ, METAL FILM 110M				C548	1-126-967-11	ELECT	47μF	20%	50V
RV702	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M				C549	1-126-964-11	ELECT	10μF	20%	50V
<SPARK GAP>						C550	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
						C551	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
SG701	1-519-422-11	GAP, SPARK				C552	1-126-964-11	ELECT	10μF	20%	50V
SG702	1-519-422-11	GAP, SPARK				C553	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
SG703	1-519-422-11	GAP, SPARK				C554	1-126-960-11	ELECT	1μF	20%	50V
SG704	1-519-422-11	GAP, SPARK				C555	1-163-038-91	CERAMIC CHIP	0.1μF		25V
SG705	1-519-422-11	GAP, SPARK				C556	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
*****						C557	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
* A-1316-456-A G COMPL						C558	1-126-964-11	ELECT	10μF	20%	50V
*****						C559	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
△ 1-473-159-21	CAP ASSY, HIGH-VOLTAGE					C560	1-126-960-11	ELECT	1μF	20%	50V
1-533-223-11	CLIP, FUSE					C561	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
1-900-249-01	LEAD ASSY, FOCUS					C562	1-107-725-11	CERAMIC CHIP	0.1μF	10%	16V
△ 2-371-561-00	BUSHING (P), INSULATING					C563	1-163-037-11	CERAMIC CHIP	0.022μF	10%	50V
△ 4-061-191-01	SHEET, INSULATE					C564	1-163-031-11	CERAMIC CHIP	0.01μF		50V
4-382-854-01	SCREW (M3X8), P, SW (+)					C565	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
7-682-949-09	SCREW +PSW 3X10					C566	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
<CAPACITOR>						C567	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C501	1-163-275-11	CERAMIC CHIP	0.001μF	5%	50V	C568	1-106-383-00	MYLAR	0.047μF	10%	200V
C502	1-163-251-11	CERAMIC CHIP	100PF	5%	50V	C569	1-102-820-00	CERAMIC	330PF	5%	50V
C503	1-107-889-11	ELECT	220μF	20%	25V	C570	1-123-024-21	ELECT	33μF		160V
C504	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C571	1-162-116-00	CERAMIC	680PF	10%	2KV
C505	1-107-561-11	FILM CHIP	0.01μF	5%	50V	C573	1-136-044-00	FILM	0.0017μF	3%	1.6KV
C507	1-107-889-11	ELECT	220μF	20%	25V	C574	1-107-682-11	CERAMIC CHIP	1μF	10%	16V
C508	1-163-017-00	CERAMIC CHIP	0.0047μF	10%	50V	C575	1-102-030-00	CERAMIC	330PF	10%	500V
C509	1-163-275-11	CERAMIC CHIP	0.001μF	5%	50V	C576	1-136-541-11	FILM	1.5μF	5%	200V
C510	1-115-565-11	CERAMIC CHIP	2.2μF	10%	10V	C577	1-137-417-11	MYLAR	0.0047μF	10%	200V
C511	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	C578	1-162-114-00	CERAMIC	0.0047μF		2KV
						C581	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
						C582	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
						C585	1-126-968-11	ELECT	100μF	20%	50V
						C587	1-107-725-11	CERAMIC CHIP	0.1μF	10%	16V
						C588	1-163-031-11	CERAMIC CHIP	0.01μF		50V
						C589	1-107-364-11	MYLAR	0.01μF	10%	200V
						C590	1-107-364-11	MYLAR	0.01μF	10%	200V
						C591	1-163-031-11	CERAMIC CHIP	0.01μF		50V
						C592	1-163-031-11	CERAMIC CHIP	0.01μF		50V

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
C593	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C685	1-162-318-11	CERAMIC	0.001μF	10%	500V
C594	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C687	1-104-665-11	ELECT	100μF	20%	10V
C595	1-104-652-11	ELECT	470μF	20%	10V	C688	1-102-129-00	CERAMIC	0.01μF	10%	50V
C596	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C689	1-104-652-11	ELECT	470μF	20%	10V
C598	1-107-877-11	ELECT	1000μF	20%	10V	C690	1-104-652-11	ELECT	470μF	20%	10V
C599	1-163-031-11	CERAMIC CHIP	0.01μF		50V	C1500	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C602	△ 1-113-889-11	CERAMIC	1000PF	20%	250V	C1503	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C603	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	C1505	1-104-555-11	FILM CHIP	0.022μF	5%	16V
C604	△ 1-107-533-11	MYLAR	1μF	20%	250V	C1506	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C606	△ 1-113-926-11	CERAMIC	0.0047μF		250V	C1507	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C607	△ 1-113-926-11	CERAMIC	0.0047μF		250V	C1508	1-107-823-11	CERAMIC CHIP	0.47μF	10%	16V
C608	△ 1-113-889-11	CERAMIC	1000PF	20%	250V	C1511	1-163-038-91	CERAMIC CHIP	0.1μF		25V
C609	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	C1512	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C610	1-107-910-11	ELECT	100μF	20%	50V	C1513	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C611	1-137-479-11	MYLAR	1μF	10%	400V	C1514	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C612	1-107-906-11	ELECT	10μF	20%	50V	C1515	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C613	1-136-175-11	FILM	0.68μF	5%	50V	C1516	1-163-038-91	CERAMIC CHIP	0.1μF		25V
C614	1-107-909-11	ELECT	47μF	20%	50V	C1517	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C615	1-117-752-11	ELECT(BLOCK)	330μF	20%	450V	C1518	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C616	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	C1519	1-163-031-11	CERAMIC CHIP	0.01μF		50V
C617	1-107-906-11	ELECT	10μF	20%	50V	C1520	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C621	1-107-905-11	ELECT	4.7μF	20%	50V	C1521	1-163-809-11	CERAMIC CHIP	0.047μF	10%	25V
C623	1-137-399-11	MYLAR	0.1μF	5%	100V	C1522	1-107-682-11	CERAMIC CHIP	1μF	10%	16V
C624	1-130-029-00	FILM	8200PF	2%	50V	C1523	1-107-823-11	CERAMIC CHIP	0.47μF	10%	16V
C625	1-107-906-11	ELECT	10μF	20%	50V	C1524	1-107-823-11	CERAMIC CHIP	0.47μF	10%	16V
C627	1-107-910-11	ELECT	100μF	20%	50V	C1525	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C629	1-119-867-11	MYLAR	0.047μF	3%	1KV	C1526	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V
C631	1-119-867-11	MYLAR	0.047μF	3%	1KV	C1527	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C636	1-107-890-11	ELECT	2200μF	20%	25V	C1528	1-126-935-11	ELECT	470μF	20%	6.3V
C637	1-111-171-31	ELECT	220μF	20%	100V	C1530	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C638	1-111-171-31	ELECT	220μF	20%	100V	C1531	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C640	1-107-911-11	ELECT	220μF	20%	50V	C1532	1-104-664-11	ELECT	47μF	20%	16V
C641	1-107-890-11	ELECT	2200μF	20%	25V	C1533	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C642	1-107-890-11	ELECT	2200μF	20%	25V	C1534	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C643	1-107-890-11	ELECT	2200μF	20%	25V	C1535	1-163-038-91	CERAMIC CHIP	0.1μF		25V
C644	1-107-890-11	ELECT	2200μF	20%	25V	C1536	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V
C645	1-107-960-11	ELECT	4.7μF	20%	200V	C1537	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C648	1-107-962-11	ELECT	22μF	20%	250V	C1538	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V
C649	1-107-914-11	ELECT	1000μF	20%	25V	C1539	1-126-964-11	ELECT	10μF	20%	50V
C650	1-107-914-11	ELECT	1000μF	20%	25V	C1540	1-126-964-11	ELECT	10μF	20%	50V
C651	1-107-914-11	ELECT	1000μF	20%	25V	C1541	1-126-963-11	ELECT	4.7μF	20%	50V
C652	1-107-914-11	ELECT	1000μF	20%	25V	C2501	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C653	1-107-906-11	ELECT	10μF	20%	50V	C2502	1-162-558-11	CERAMIC	100PF	10%	2KV
C654	1-107-906-11	ELECT	10μF	20%	50V	C2503	1-126-968-11	ELECT	100μF	20%	50V
C661	1-107-906-11	ELECT	10μF	20%	50V	C2504	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V
C662	1-107-888-11	ELECT	47μF	20%	25V	C2505	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C663	1-107-888-11	ELECT	47μF	20%	25V	C2506	1-106-383-00	MYLAR	0.047μF	10%	200V
C664	1-107-888-11	ELECT	47μF	20%	25V	C2507	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C665	1-107-888-11	ELECT	47μF	20%	25V	C2508	1-123-024-21	ELECT	33μF		160V
C666	1-107-906-11	ELECT	10μF	20%	50V	C2509	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V
C667	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	C2510	1-126-972-11	ELECT	1000μF	20%	50V
C669	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	C2511	1-126-972-11	ELECT	1000μF	20%	50V
C670	1-107-907-11	ELECT	22μF	20%	50V	C2512	1-102-820-00	CERAMIC	330PF	5%	50V
C671	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	C2513	1-126-968-11	ELECT	100μF	20%	50V
C674	1-102-973-00	CERAMIC	100PF	5%	50V	C2514	1-162-558-11	CERAMIC	100PF	10%	2KV
C675	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	C2515	1-130-061-91	FILM	0.0015μF	5%	630V
C676	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	C2516	1-106-220-00	MYLAR	0.1μF	10%	100V
C677	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	C2518	1-137-194-81	MYLAR	0.47μF	5%	50V
C678	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	C2519	1-163-037-11	CERAMIC CHIP	0.022μF	10%	50V
C679	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	C2520	1-136-155-00	MYLAR	0.015μF	5%	50V
C680	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	C2521	1-107-914-11	ELECT	1000μF	20%	50V
C681	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	C2522	1-106-351-00	MYLAR	0.0022μF	99%	200V
C682	1-163-009-11	CERAMIC CHIP	0.001μF	10%	50V	C2523	1-126-767-11	ELECT	1000μF	20%	16V
C683	1-162-318-11	CERAMIC	0.001μF	10%	500V	C2524	1-126-767-11	ELECT	1000μF	20%	16V
C684	1-162-318-11	CERAMIC	0.001μF	10%	500V	C2528	1-136-044-00	FILM	0.0017μF	3%	1.6KV



Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
C2529	1-107-962-11	ELECT	22μF 20% 250V	D602	△ 8-719-510-53	DIODE D4SB60L	
C2530	1-136-044-00	FILM	0.0017μF 3% 1.6KV	D603	8-719-037-54	DIODE RD30SB-T1	
C2531	1-162-115-00	CERAMIC	330PF 10% 2KV	D604	8-719-028-72	DIODE RGP02-17EL-6433	
C2532	1-109-844-11	FILM	0.68μF 5% 250V	D605	8-719-110-31	DIODE RD12ESB2	
C2533	1-115-521-11	FILM	0.82μF 5% 250V	D606	8-719-911-19	DIODE 1SS119-25	
C2534	1-163-021-91	CERAMIC CHIP	0.01μF 10% 50V	D607	8-719-073-01	DIODE MA111-(K8).S0	
C2536	1-117-677-11	FILM	3.3μF 5% 250V	D608	8-719-110-67	DIODE RD27ESB2	
C2537	1-104-760-11	CERAMIC CHIP	0.047μF 10% 50V	D609	8-719-073-01	DIODE MA111-(K8).S0	
C2538	1-164-004-11	CERAMIC CHIP	0.1μF 10% 25V	D612	8-719-989-76	DIODE SC802-04	
C2539	1-164-346-11	CERAMIC CHIP	1μF 16V	D614	8-719-989-21	DIODE SC311-6-TE12RA	
C2541	1-107-957-11	ELECT	1μF 20% 250V	D617	8-719-037-23	DIODE RD12SB1-T1	
C2542	1-162-115-00	CERAMIC	330PF 10% 2KV	D619	8-719-073-01	DIODE MA111-(K8).S0	
C2543	1-117-677-11	FILM	3.3μF 5% 250V	D620	8-719-073-01	DIODE MA111-(K8).S0	
C2544	1-117-214-11	CERAMIC	0.001 10% 2KV	D622	8-719-027-43	DIODE S2L20UF	
<CONNECTOR>				D623	8-719-050-18	DIODE D4SBL20U	
CN501	* 1-564-515-11	PLUG, CONNECTOR 12P		D624	8-719-052-91	DIODE D4SBS4-F	
CN502	* 1-564-510-11	PLUG, CONNECTOR 7P		D625	8-719-052-91	DIODE D4SBS4-F	
CN601	* 1-766-241-11	PIN, CONNECTOR (PC BOARD) 3P		D626	8-719-052-90	DIODE D1NL40-TA2	
CN602	* 1-695-561-11	PIN, CONNECTOR (PC BOARD) 7P		D627	8-719-110-48	DIODE RD18ESB1	
CN603	* 1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P		D630	8-719-073-01	DIODE MA111-(K8).S0	
CN604	* 1-691-096-11	PIN, CONNECTOR (PC BOARD) 8P		D633	8-719-073-01	DIODE MA111-(K8).S0	
CN605	* 1-564-509-11	PLUG, CONNECTOR 6P		D634	8-719-109-93	DIODE RD6.2ESB2	
CN606	* 1-564-511-11	PLUG, CONNECTOR 8P		D635	8-719-304-63	DIODE RM11C	
CN607	* 1-691-291-11	PIN, CONNECTOR 5P		D636	8-719-989-21	DIODE SC311-6-TE12RA	
CN608	* 9-910-999-31	H TYPE BASE POST		D637	8-719-510-48	DIODE D1N20R	
CN2501	* 1-568-536-11	PLUG (MINIATURE DY) 6P		D638	8-719-037-06	DIODE RD7.5SB1-T1	
<DIODE>				D639	8-719-073-01	DIODE MA111-(K8).S0	
D501	8-719-073-01	DIODE MA111-(K8).S0		D640	8-719-157-94	DIODE RD3.3SB	
D502	8-719-073-01	DIODE MA111-(K8).S0		D2501	8-719-036-96	DIODE RD5.6SB2	
D503	8-719-073-01	DIODE MA111-(K8).S0		D2502	8-719-929-15	DIODE HZS9.1NB2	
D504	8-719-158-56	DIODE RD15SB1		D2503	8-719-036-96	DIODE RD5.6SB2	
D505	8-719-037-23	DIODE RD12SB1-T1		D2504	8-719-908-03	DIODE GP08D	
D506	8-719-073-01	DIODE MA111-(K8).S0		D2506	8-719-939-07	DIODE ERD38-06	
D507	8-719-073-01	DIODE MA111-(K8).S0		D2507	8-719-911-19	DIODE 1SS119-25	
D509	8-719-073-01	DIODE MA111-(K8).S0		D2508	8-719-988-11	DIODE FE3D	
D511	8-719-073-01	DIODE MA111-(K8).S0		D2509	8-719-988-11	DIODE FE3D	
D512	8-719-073-01	DIODE MA111-(K8).S0		D2510	8-719-300-76	DIODE RH-1A	
D513	8-719-302-43	DIODE EL1Z		D2511	8-719-075-44	DIODE DD54SCLS-YCC-11	
D514	8-719-073-01	DIODE MA111-(K8).S0		D2512	8-719-911-19	DIODE 1SS119-25	
D515	8-719-073-01	DIODE MA111-(K8).S0		D2513	8-719-908-03	DIODE GP08D	
D516	8-719-929-15	DIODE HZS9.1NB2		D2514	8-719-951-30	DIODE ERA91-02	
D517	8-719-037-23	DIODE RD12SB1-T1		D2515	8-719-158-17	DIODE RD5.6SB2	
D518	8-719-988-11	DIODE FE3D		D2520	8-719-989-21	DIODE SC311-6-TE12RA	
D519	8-719-988-11	DIODE FE3D		<FERRITE BEAD>			
D520	8-719-028-72	DIODE RGP02-17EL-6433		FB501	1-410-397-21	FERRITE	1.1μH
D524	8-719-110-31	DIODE RD12ESB2		FB502	1-410-397-21	FERRITE	1.1μH
D525	8-719-073-01	DIODE MA111-(K8).S0		FB606	1-410-397-21	FERRITE	1.1μH
D528	8-719-073-01	DIODE MA111-(K8).S0		FB2501	1-410-397-21	FERRITE	1.1μH
D529	8-719-073-01	DIODE MA111-(K8).S0		FB2503	1-410-397-21	FERRITE	1.1μH
D530	8-719-073-01	DIODE MA111-(K8).S0		<IC>			
D531	8-719-073-01	DIODE MA111-(K8).S0		IC501	8-759-981-48	IC TL082M	
D532	8-719-073-01	DIODE MA111-(K8).S0		IC502	8-759-981-48	IC TL082M	
D533	8-719-073-01	DIODE MA111-(K8).S0		IC503	8-759-239-34	IC TC74HC4538AF	
D534	8-719-073-01	DIODE MA111-(K8).S0		IC506	8-759-981-48	IC TL082M	
D535	8-719-073-01	DIODE MA111-(K8).S0		IC507	8-759-593-29	IC TDA9106	
D536	8-719-073-01	DIODE MA111-(K8).S0		IC508	8-752-072-94	IC CXA1875AM-T4	
D537	8-719-158-40	DIODE RD10SB1		IC509	8-759-239-34	IC TC74HC4538AF	
D538	8-719-158-53	DIODE RD13SB2		IC510	8-759-239-34	IC TC74HC4538AF	
D539	8-719-158-53	DIODE RD13SB2		IC512	8-752-072-94	IC CXA1875AM-T4	
D540	8-719-033-53	DIODE RD6.8SB2-T1		IC514	8-759-198-31	IC μPC1093J	
D541	8-719-033-53	DIODE RD6.8SB2-T1		IC515	8-759-158-82	IC CXA1544M-T6	
D601	8-719-073-01	DIODE MA111-(K8).S0		IC516	8-759-009-07	IC MC14053BF	

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark		
IC517	8-759-198-31	IC μ PC1093J		Q508	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
IC519	\triangle 8-759-198-31	IC μ PC1093J		Q509	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
IC520	8-759-998-98	IC LM358D		Q510	8-729-140-96	TRANSISTOR 2SD774-34			
IC522	8-759-231-30	IC TC-4S30F		Q511	8-729-140-96	TRANSISTOR 2SD774-34			
IC523	8-759-988-13	IC LM393PS		Q512	8-729-140-97	TRANSISTOR 2SB734-34			
IC524	8-759-424-31	IC MC74HC175FEL		Q513	8-729-044-21	TRANSISTOR 2SK2655-01R-F165			
IC526	8-759-231-30	IC TC-4S30F		Q514	8-729-015-28	TRANSISTOR IRFI9630GS			
IC527	8-759-209-69	IC TC4S11F		Q517	8-729-018-03	TRANSISTOR 2SC4686A			
IC528	8-759-082-55	IC TC7W00FU		Q518	8-729-018-03	TRANSISTOR 2SC4686A			
IC529	8-759-239-34	IC TC74HC4538AF		Q520	8-729-900-53	TRANSISTOR DTC114EK			
IC601	8-749-015-27	IC MZ1540		Q521	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
IC602	8-749-013-78	IC MCR5102		Q523	1-801-806-11	TRANSISTOR DTC144EKA-T146			
IC606	8-759-394-35	IC BA12T		Q524	1-801-806-11	TRANSISTOR DTC144EKA-T146			
IC607	8-759-701-88	IC NJM7912FA		Q525	8-729-027-38	TRANSISTOR DTA144EKA-T146			
IC608	8-759-450-47	IC BA05T		Q529	1-801-806-11	TRANSISTOR DTC144EKA-T146			
IC609	8-759-247-67	IC LM2990T-5.0		Q530	1-801-806-11	TRANSISTOR DTC144EKA-T146			
IC610	8-749-920-61	IC SE-135N		Q531	1-801-806-11	TRANSISTOR DTC144EKA-T146			
IC2501	8-759-209-90	IC TC4S71F		Q532	1-801-806-11	TRANSISTOR DTC144EKA-T146			
IC2502	8-759-100-96	IC UPC4558G2		Q533	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
IC2503	8-759-980-58	IC TDA8172		Q534	8-729-027-38	TRANSISTOR DTA144EKA-T146			
IC2504	8-759-803-42	IC LA6500-FA		Q535	8-729-120-28	TRANSISTOR 2SC1623			
	<COIL>			Q536	8-729-027-38	TRANSISTOR DTA144EKA			
L501	1-410-482-31	INDUCTOR	100 μ H	Q601	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
L502	1-412-533-21	INDUCTOR	47 μ H	Q602	8-729-119-78	TRANSISTOR 2SC2785-HFE			
L503	1-412-525-31	INDUCTOR	10 μ H	Q603	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
L601	1-406-976-11	INDUCTOR	68 μ H	Q604	8-729-033-26	TRANSISTOR DTA114GKAT146			
L603	1-412-529-11	INDUCTOR	22 μ H	Q605	8-729-029-47	TRANSISTOR DTA143ESA-TP			
L604	1-412-529-11	INDUCTOR	22 μ H	Q608	8-729-029-47	TRANSISTOR DTA143ESA-TP			
L605	1-412-529-11	INDUCTOR	22 μ H	Q609	8-729-900-53	TRANSISTOR DTC114EK			
L606	1-412-529-11	INDUCTOR	22 μ H	Q611	8-729-033-25	TRANSISTOR DTC114GKA			
L607	1-406-663-21	INDUCTOR	47 μ H	Q612	8-729-033-26	TRANSISTOR DTA114GKAT146			
L608	1-406-663-21	INDUCTOR	47 μ H	Q613	8-729-027-23	TRANSISTOR DTA114EKA-T146			
L609	1-410-397-21	FERRITE	1.1 μ H	Q614	8-729-200-17	TRANSISTOR 2SA1091-O			
L610	1-410-397-21	FERRITE	1.1 μ H	Q615	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
L613	1-412-533-21	INDUCTOR	47 μ H	Q616	8-729-033-25	TRANSISTOR DTC114GKA			
L614	1-412-533-21	INDUCTOR	47 μ H	Q617	8-729-033-26	TRANSISTOR DTA114GKAT146			
L615	1-412-533-21	INDUCTOR	47 μ H	Q618	1-801-806-11	TRANSISTOR DTC144EKA-T146			
L616	1-412-533-21	INDUCTOR	47 μ H	Q619	8-729-027-38	TRANSISTOR DTA144EKA-T146			
L617	1-412-533-21	INDUCTOR	47 μ H	Q620	1-801-806-11	TRANSISTOR DTC144EKA-T146			
L2501	1-459-111-00	INDUCTOR	10mH	Q621	8-729-900-53	TRANSISTOR DTC114EK			
L2502	1-410-682-31	INDUCTOR	470 μ H	Q622	1-801-806-11	TRANSISTOR DTC144EKA-T146			
L2503	1-411-667-11	COIL, HORIZONTAL LINEARITY		Q2501	8-729-119-78	TRANSISTOR 2SC2785-HFE			
L2504	1-411-667-11	COIL, HORIZONTAL LINEARITY		Q2502	8-729-119-76	TRANSISTOR 2SA1175-HFE			
L2505	1-412-552-11	INDUCTOR	2.2mH	Q2503	8-729-015-28	TRANSISTOR IRFI9630GS			
L2506	1-414-493-41	INDUCTOR	4.7mH	Q2504	8-729-800-32	TRANSISTOR 2SC2362K-G			
L2507	1-406-671-11	INDUCTOR	1mH	Q2505	8-729-820-73	TRANSISTOR 2SC3746			
	<NEON LAMP>			Q2508	8-729-049-47	TRANSISTOR 2SC5450-CA			
NL501	1-519-526-11	LAMP, NEON		Q2511	8-729-122-13	TRANSISTOR 2SA1221-K			
	<PHOTO COUPLER >			Q2512	1-801-806-11	TRANSISTOR DTC144EKA-T146			
PH603	8-749-010-64	PHOTO COUPLER PC123F2		Q2513	8-729-119-76	TRANSISTOR 2SA1175-HFE			
PH604	8-749-010-64	PHOTO COUPLER PC123F2		Q2514	8-729-034-60	TRANSISTOR 2SK2350			
	<TRANSISTOR>			Q2515	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q501	8-729-925-42	TRANSISTOR IMT2		Q2518	8-729-034-60	TRANSISTOR 2SK2350			
Q504	8-729-027-23	TRANSISTOR DTA114EKA-T146		Q2519	1-801-806-11	TRANSISTOR DTC144EKA-T146			
Q505	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			<RESISTOR>				
Q506	8-729-019-85	TRANSISTOR 2SC3392-5-TB		R501	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
Q507	8-729-026-50	TRANSISTOR 2SA1037AK-T146-QR		R502	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
				R503	1-216-073-00	RES,CHIP	10K	5%	1/10W
				R504	1-216-073-00	RES,CHIP	10K	5%	1/10W
				R505	1-216-085-00	RES,CHIP	33K	5%	1/10W
				R506	1-216-081-00	RES,CHIP	22K	5%	1/10W
				R507	1-216-073-00	RES,CHIP	10K	5%	1/10W
				R508	1-216-045-00	RES,CHIP	680	5%	1/10W
				R509	1-216-073-00	RES,CHIP	10K	5%	1/10W
				R510	1-216-677-11	METAL CHIP	12K	0.50%	1/10W



Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
R511	1-216-069-00	RES,CHIP	6.8K	5%	1/10W	R592	1-216-049-91	RES,CHIP	1K	5%	1/10W
R512	1-216-073-00	RES,CHIP	10K	5%	1/10W	R593	1-216-081-00	RES,CHIP	22K	5%	1/10W
R513	1-216-049-91	RES,CHIP	1K	5%	1/10W	R594	1-216-073-00	RES,CHIP	10K	5%	1/10W
R514	1-216-073-00	RES,CHIP	10K	5%	1/10W	R595	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R515	1-216-001-00	RES,CHIP	10	5%	1/10W	R596	1-216-001-00	RES,CHIP	10	5%	1/10W
R517	1-216-073-00	RES,CHIP	10K	5%	1/10W	R597	1-247-688-11	CARBON	10	5%	1/4W F
R518	1-216-073-00	RES,CHIP	10K	5%	1/10W	R599	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R519	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W	R601	1-216-073-00	RES,CHIP	10K	5%	1/10W
R520	1-216-077-91	RES,CHIP	15K	5%	1/10W	R602	△ 1-202-844-00	SOLID	330K	20%	1/2W
R521	1-216-059-00	RES,CHIP	2.7K	5%	1/10W	R603	1-260-081-11	CARBON	33	5%	1/2W
R522	1-216-073-00	RES,CHIP	10K	5%	1/10W	R604	1-215-887-00	METAL OXIDE	150	5%	2W F
R523	1-216-073-00	RES,CHIP	10K	5%	1/10W	R605	1-216-097-91	RES,CHIP	100K	5%	1/10W
R524	1-216-025-91	RES,CHIP	100	5%	1/10W	R606	1-240-251-11	CMT,MELF	6.8	5%	10W
R525	1-216-077-91	RES,CHIP	15K	5%	1/10W	R607	1-216-095-00	RES,CHIP	82K	5%	1/10W
R526	1-216-041-00	RES,CHIP	470	5%	1/10W	R608	1-216-073-00	RES,CHIP	10K	5%	1/10W
R527	1-216-049-91	RES,CHIP	1K	5%	1/10W	R609	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R528	1-216-073-00	RES,CHIP	10K	5%	1/10W	R610	1-216-049-91	RES,CHIP	1K	5%	1/10W
R529	1-216-041-00	RES,CHIP	470	5%	1/10W	R611	1-207-615-00	METAL	0.33	10%	2W
R531	1-216-105-91	RES,CHIP	220K	5%	1/10W	R612	1-216-089-91	RES,CHIP	47K	5%	1/10W
R540	1-216-075-00	RES,CHIP	12K	5%	1/10W	R613	1-207-615-00	METAL	0.33	10%	2W
R542	1-216-025-91	RES,CHIP	100	5%	1/10W	R614	1-216-073-00	RES,CHIP	10K	5%	1/10W
R543	1-216-085-00	RES,CHIP	33K	5%	1/10W	R615	1-215-485-00	METAL	470K	1%	1/4W
R544	1-216-077-91	RES,CHIP	15K	5%	1/10W	R616	1-215-485-00	METAL	470K	1%	1/4W
R545	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	R617	1-215-485-00	METAL	470K	1%	1/4W
R546	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W	R618	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R547	1-216-073-00	RES,CHIP	10K	5%	1/10W	R619	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R548	1-216-049-91	RES,CHIP	1K	5%	1/10W	R620	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R549	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R621	1-216-363-00	METAL OXIDE	0.33	5%	2W F
R550	1-216-025-91	RES,CHIP	100	5%	1/10W	R622	1-216-363-00	METAL OXIDE	0.33	5%	2W F
R551	1-216-049-91	RES,CHIP	1K	5%	1/10W	R623	1-260-135-11	CARBON	1M	5%	1/2W
R552	1-216-089-91	RES,CHIP	47K	5%	1/10W	R624	1-249-401-11	CARBON	47	5%	1/4W F
R553	1-216-643-11	METAL CHIP	470	0.50%	1/10W	R626	1-260-135-11	CARBON	1M	5%	1/2W
R554	1-216-009-91	RES,CHIP	22	5%	1/10W	R627	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R555	1-216-025-91	RES,CHIP	100	5%	1/10W	R628	1-249-401-11	CARBON	47	5%	1/4W F
R556	1-216-001-00	RES,CHIP	10	5%	1/10W	R631	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R559	1-216-073-00	RES,CHIP	10K	5%	1/10W	R635	1-260-135-11	CARBON	1M	5%	1/2W
R560	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R636	1-260-135-11	CARBON	1M	5%	1/2W
R561	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R638	1-216-081-00	RES,CHIP	22K	5%	1/10W
R562	1-216-643-11	METAL CHIP	470	0.50%	1/10W	R641	1-216-041-00	RES,CHIP	470	5%	1/10W
R564	1-216-049-91	RES,CHIP	1K	5%	1/10W	R642	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R565	1-216-009-91	RES,CHIP	22	5%	1/10W	R643	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R566	1-216-049-91	RES,CHIP	1K	5%	1/10W	R644	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R567	1-216-083-00	RES,CHIP	27K	5%	1/10W	R645	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R569	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	R651	1-216-097-91	RES,CHIP	100K	5%	1/10W
R570	1-216-051-00	RES,CHIP	1.2K	5%	1/10W	R652	1-215-481-00	METAL	330K	1%	1/4W
R571	1-216-073-00	RES,CHIP	10K	5%	1/10W	R653	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R572	1-216-057-00	RES,CHIP	2.2K	5%	1/10W	R654	1-216-049-91	RES,CHIP	1K	5%	1/10W
R573	1-216-105-91	RES,CHIP	220K	5%	1/10W	R657	1-216-041-00	RES,CHIP	470	5%	1/10W
R574	1-216-069-00	RES,CHIP	6.8K	5%	1/10W	R658	1-216-101-00	RES,CHIP	150K	5%	1/10W
R575	1-216-698-11	METAL CHIP	91K	0.50%	1/10W	R659	1-216-049-91	RES,CHIP	1K	5%	1/10W
R576	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R661	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W
R577	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	R662	1-215-483-00	METAL	390K	1%	1/4W
R578	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R664	1-215-473-00	METAL	150K	1%	1/4W
R579	1-216-675-91	METAL CHIP	10K	0.50%	1/10W	R665	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R580	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	R666	1-216-386-11	METAL OXIDE	0.56	5%	3W F
R581	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	R667	1-216-073-00	RES,CHIP	10K	5%	1/10W
R582	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	R668	1-247-895-91	CARBON	470K	5%	1/4W
R583	1-216-063-91	RES,CHIP	3.9K	5%	1/10W	R669	1-216-049-91	RES,CHIP	1K	5%	1/10W
R584	1-216-053-00	RES,CHIP	1.5K	5%	1/10W	R672	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R585	1-216-097-91	RES,CHIP	100K	5%	1/10W	R677	1-216-089-91	RES,CHIP	47K	5%	1/10W
R586	1-249-429-11	CARBON	10K	5%	1/4W	R678	1-216-073-00	RES,CHIP	10K	5%	1/10W
R588	1-249-405-11	CARBON	100	5%	1/4W F	R679	△ 1-202-727-00	SOLID	4.7M	20%	1/2W
R589	1-208-610-11	METAL OXIDE	2M	5%	1W	R680	△ 1-202-727-00	SOLID	4.7M	20%	1/2W
R590	1-216-035-00	RES,CHIP	270	5%	1/10W	R682	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R591	1-216-073-00	RES,CHIP	10K	5%	1/10W	R683	1-202-933-61	FUSIBLE	0.1	10%	1/2W F

BVM-D14H1U/D14H5U/D14H1E/D14H5E/D14H1A/D14H5A

Ref.No.	Part No.	Description	Remark				Ref.No.	Part No.	Description	Remark					
<TRANSFORMER>						< IC >									
T501	1-424-555-11	TRANSFORMER, FERRITE (DFT)	NX-4141/J1A4				IC1601	8-759-490-02	IC TOP224Y-BB						
T502	△ X-4560-177-1	TRANSFORMER ASSY, FLYBACK													
T503	1-423-855-11	TRANSFORMER, FERRITE (HRT)													
T602	△ 1-423-333-11	TRANSFORMER, LINE FILTER (LFT)	0μH				< COIL >								
T603	1-416-913-11	INDUCTOR													
T605	1-435-285-11	CONVERTER					L1601	1-411-799-11	COMMON MODE CHOKE	7μH					
T2501	1-437-207-11	TRANSFORMER, FERRITE (HOT)					L1602	1-406-975-21	CHOKE	47μH					
T2502	1-423-853-11	TRANSFORMER, FERRITE (HDT)													
T2503	1-431-443-11	TRANSFORMER, FERRITE (HST)													
<THERMISTOR>						<PHOTO COUPLER>									
TH501	1-807-973-11	THERMISTOR					PH601	8-749-010-64	PHOTO COUPLER PC123F2						
THP601	△ 1-808-059-31	THERMISTOR, POSITIVE					PH602	8-749-010-64	PHOTO COUPLER PC123F2						
<VARISTOR>						<TRANSISTOR>									
VDR601	△ 1-810-622-11	VARISTOR					Q1601	8-729-033-26	TRANSISTOR DTA114GKAT146						
VDR602	△ 1-801-073-31	VARISTOR TNR14V471K660					Q1602	8-729-033-25	TRANSISTOR DTC114GKA						
						Q1603	8-729-033-25	TRANSISTOR DTC114GKA							
<RESISTOR>															
*****						R1601	1-216-017-91	RES,CHIP	47	5%	1/10W				
						R1602	1-249-387-11	CARBON	3.3	5%	1/4W F				
						R1603	1-216-073-00	RES,CHIP	10K	5%	1/10W				
						R1604	1-216-009-91	RES,CHIP	22	5%	1/10W				
						R1605	1-216-057-00	RES,CHIP	2.2K	5%	1/10W				
<CAPACITOR>						R1606	1-216-049-91	RES,CHIP	1K	5%	1/10W				
C1601	1-104-665-11	ELECT	100μF	20%	10V	R1607	1-216-035-00	RES,CHIP	270	5%	1/10W				
C1602	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	R1608	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W				
C1603	1-107-906-11	ELECT	10μF	20%	50V	R1609	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W				
C1604	1-107-911-11	ELECT	220μF	20%	50V	R1610	1-216-049-91	RES,CHIP	1K	5%	1/10W				
C1605	1-107-888-11	ELECT	47μF	20%	25V	R1611	1-216-001-00	RES,CHIP	10	5%	1/10W				
C1606	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	R1612	1-216-675-91	METAL CHIP	10K	0.50%	1/10W				
C1607	1-107-880-11	ELECT	4700μF	20%	10V	R1613	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W				
C1608	1-107-880-11	ELECT	4700μF	20%	10V	<TRANSFORMER>									
C1609	1-164-004-11	CERAMIC CHIP	0.1μF	10%	25V	T1601 1-435-184-11 TRANSFORMER, CONVERTER									
C1610	1-107-906-11	ELECT	10μF	20%	50V										
C1611	1-128-339-11	ELECT	2200μF	20%	10V										
<CONNECTOR>						*****									
CN1601	* 1-691-292-11	CONNECTOR 3P					* A-1372-664-A HA MOUNT (D14H5)								
CN1602	* 1-779-370-11	CONNECTOR 3P					*****								
<DIODE>						<CAPACITOR>									
D1601	8-719-033-53	DIODE RD6.8SB2-T1					C201	1-126-206-11	ELECT CHIP	100μF	20%	6.3V			
D1602	8-719-033-53	DIODE RD6.8SB2-T1					C202	1-126-206-11	ELECT CHIP	100μF	20%	6.3V			
D1603	8-719-989-21	DIODE SC311-6-TE12RA					C203	1-126-206-11	ELECT CHIP	100μF	20%	6.3V			
D1604	8-719-066-51	DIODE P6KE170AG23					C204	1-126-206-11	ELECT CHIP	100μF	20%	6.3V			
D1605	8-719-063-73	DIODE D1NL20U-TR					C205	1-126-206-11	ELECT CHIP	100μF	20%	6.3V			
D1606	8-719-510-41	DIODE D10SC9M					C206	1-126-206-11	ELECT CHIP	100μF	20%	6.3V			
D1607	8-719-109-86	DIODE RD5.1ESB3					C207	1-126-206-11	ELECT CHIP	100μF	20%	6.3V			
< FUSE >						C211	1-163-031-11	CERAMIC CHIP	0.01μF	50V					
F1603	△ 1-533-987-11	FUSE (5A/125V)					C212	1-163-031-11	CERAMIC CHIP	0.01μF	50V				
< FERRITE BEAD >							C213	1-163-031-11	CERAMIC CHIP	0.01μF	50V				
FB1601	1-410-397-21	FERRITE					1.1μH	C214	1-163-031-11	CERAMIC CHIP	0.01μF	50V			
							C215	1-163-031-11	CERAMIC CHIP	0.01μF	50V				
							C216	1-163-031-11	CERAMIC CHIP	0.01μF	50V				
						C217	1-163-031-11	CERAMIC CHIP	0.01μF	50V					
						C301	1-163-031-11	CERAMIC CHIP	0.01μF	50V					
						C302	1-163-031-11	CERAMIC CHIP	0.01μF	50V					
						C303	1-163-031-11	CERAMIC CHIP	0.01μF	50V					
						C304	1-163-031-11	CERAMIC CHIP	0.01μF	50V					

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
C305	1-163-031-11	CERAMIC CHIP	0.01μF	50V		R211	1-216-085-00	RES,CHIP	33K	5%	1/10W
C306	1-163-031-11	CERAMIC CHIP	0.01μF	50V		R212	1-216-095-00	RES,CHIP	82K	5%	1/10W
						R213	1-216-085-00	RES,CHIP	33K	5%	1/10W
C307	1-163-031-11	CERAMIC CHIP	0.01μF	50V		R214	1-216-095-00	RES,CHIP	82K	5%	1/10W
C308	1-163-031-11	CERAMIC CHIP	0.01μF	50V		R215	1-216-089-91	RES,CHIP	47K	5%	1/10W
<CONNECTOR>						R216	1-216-089-91	RES,CHIP	47K	5%	1/10W
CN201	* 1-564-005-11	PIN, CONNECTOR 6P				R217	1-216-089-91	RES,CHIP	47K	5%	1/10W
CN202	* 1-564-009-11	PIN, CONNECTOR 10P				R301	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
<DIODE>						R302	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
D201	8-719-073-01	DIODE MA111-(K8).S0				R303	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
D202	8-719-073-01	DIODE MA111-(K8).S0									
D203	8-719-073-01	DIODE MA111-(K8).S0				R304	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
D204	8-719-073-01	DIODE MA111-(K8).S0				R305	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
D205	8-719-073-01	DIODE MA111-(K8).S0				R306	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
D206	8-719-073-01	DIODE MA111-(K8).S0				R307	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
D207	8-719-073-01	DIODE MA111-(K8).S0				R308	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
D208	8-719-073-01	DIODE MA111-(K8).S0				<SWITCH>					
D209	8-719-073-01	DIODE MA111-(K8).S0				S201	1-692-037-31	SWITCH, KEY BOARD (POWER)			
D210	8-719-073-01	DIODE MA111-(K8).S0				S202	1-692-037-31	SWITCH, KEY BOARD (DEGAUSS)			
D211	8-719-073-01	DIODE MA111-(K8).S0				S203	1-692-037-31	SWITCH, KEY BOARD (NUM-1)			
D212	8-719-073-01	DIODE MA111-(K8).S0				S204	1-692-037-31	SWITCH, KEY BOARD (NUM-2)			
D213	8-719-073-01	DIODE MA111-(K8).S0				S205	1-692-037-31	SWITCH, KEY BOARD (NUM-3)			
D214	8-719-073-01	DIODE MA111-(K8).S0									
D215	8-719-073-01	DIODE MA111-(K8).S0				S206	1-692-037-31	SWITCH, KEY BOARD (NUM-0)			
D216	8-719-073-01	DIODE MA111-(K8).S0				S207	1-692-037-31	SWITCH, KEY BOARD (NUM-4)			
D217	8-719-073-01	DIODE MA111-(K8).S0				S208	1-692-037-31	SWITCH, KEY BOARD (NUM-5)			
D218	8-719-073-01	DIODE MA111-(K8).S0				S209	1-692-037-31	SWITCH, KEY BOARD (NUM-6)			
D219	8-719-073-01	DIODE MA111-(K8).S0				S210	1-692-037-31	SWITCH, KEY BOARD (NUM-CLEAR)			
D220	8-719-073-01	DIODE MA111-(K8).S0									
D221	8-719-073-01	DIODE MA111-(K8).S0				S211	1-692-037-31	SWITCH, KEY BOARD (NUM-7)			
D222	8-719-073-01	DIODE MA111-(K8).S0				S212	1-692-037-31	SWITCH, KEY BOARD (NUM-8)			
D223	8-719-987-45	DIODE CL-155Y/PG-CD				S213	1-692-037-31	SWITCH, KEY BOARD (NUM-9)			
D224	8-719-987-45	DIODE CL-155Y/PG-CD				S214	1-692-037-31	SWITCH, KEY BOARD (NUM-ENTER)			
D225	8-719-987-45	DIODE CL-155Y/PG-CD				S215	1-692-037-31	SWITCH, KEY BOARD (ENCODER 0)			
D226	8-719-987-45	DIODE CL-155Y/PG-CD									
D231	8-719-158-19	DIODE RD6.2SB				S216	1-692-037-31	SWITCH, KEY BOARD (ENCODER 1)			
<IC>						S217	1-692-037-31	SWITCH, KEY BOARD (ENCODER 2)			
IC201	8-759-342-19	IC NJU3716M-T2				S218	1-692-037-31	SWITCH, KEY BOARD (ENCODER 3)			
IC202	8-759-342-19	IC NJU3716M-T2				S219	1-692-037-31	SWITCH, KEY BOARD (MENU)			
<TRANSISTOR>						S220	1-692-037-31	SWITCH, KEY BOARD (ENTER)			
Q201	1-801-806-11	TRANSISTOR DTC144EKA-T146				S221	1-692-037-31	SWITCH, KEY BOARD (UP)			
Q202	8-729-921-12	TRANSISTOR 2SD1834				S222	1-692-037-31	SWITCH, KEY BOARD (DOWN)			
Q203	8-729-921-12	TRANSISTOR 2SD1834				S231	1-473-469-11	ENCODER, ROTARY (CONTRAST)			
<RESISTOR>						S232	1-473-469-11	ENCODER, ROTARY (BRIGHT)			
R201	1-216-043-91	RES,CHIP	560	5%	1/10W	S233	1-473-469-11	ENCODER, ROTARY (CHROMA)			
R202	1-216-043-91	RES,CHIP	560	5%	1/10W						
R203	1-216-043-91	RES,CHIP	560	5%	1/10W	S234	1-473-469-11	ENCODER, ROTARY (PHASE)			
R204	1-216-043-91	RES,CHIP	560	5%	1/10W	*****					
R205	1-216-097-91	RES,CHIP	100K	5%	1/10W	* A-1372-665-A HB MOUNT (D14H5)					

R206	1-216-049-91	RES,CHIP	1K	5%	1/10W	<CAPACITOR>					
R207	1-216-049-91	RES,CHIP	1K	5%	1/10W	C101	1-126-391-11	ELECT CHIP	47μF	20%	6.3V
R208	1-216-065-91	RES,CHIP	4.7K	5%	1/10W	C102	1-126-391-11	ELECT CHIP	47μF	20%	6.3V
R209	1-216-049-91	RES,CHIP	1K	5%	1/10W	C111	1-163-031-11	CERAMIC CHIP	0.01μF		50V
R210	1-216-097-91	RES,CHIP	100K	5%	1/10W	C112	1-163-031-11	CERAMIC CHIP	0.01μF		50V
						C113	1-163-031-11	CERAMIC CHIP	0.01μF		50V
<CONNECTOR>						<CONNECTOR>					
						CN101	1-506-471-11	PIN, CONNECTOR 6P			

Ref.No.	Part No.	Description	Remark				Ref.No.	Part No.	Description	Remark			
		<DIODE>					S103	1-692-037-31	SWITCH, KEY BOARD (/SYNC)				
D101	8-719-073-01	DIODE MA111-(K8).SO					S104	1-692-037-31	SWITCH, KEY BOARD (BLUE ONLY)				
D102	8-719-073-01	DIODE MA111-(K8).SO					S105	1-692-037-31	SWITCH, KEY BOARD (MON/R)				
D103	8-719-073-01	DIODE MA111-(K8).SO											
D104	8-719-073-01	DIODE MA111-(K8).SO					S106	1-692-037-31	SWITCH, KEY BOARD (APT/G)				
D105	8-719-073-01	DIODE MA111-(K8).SO					S107	1-692-037-31	SWITCH, KEY BOARD (COMB/B)				
							S108	1-692-037-31	SWITCH, KEY BOARD (F1/F3)				
D106	8-719-073-01	DIODE MA111-(K8).SO					S109	1-692-037-31	SWITCH, KEY BOARD (F2/F4)				
D107	8-719-073-01	DIODE MA111-(K8).SO					S110	1-692-037-31	SWITCH, KEY BOARD (ADDRESS/MAKER)				
D108	8-719-073-01	DIODE MA111-(K8).SO											
D109	8-719-073-01	DIODE MA111-(K8).SO											
D110	8-719-073-01	DIODE MA111-(K8).SO											

D111	8-719-158-19	DIODE RD6.2SB											
D121	8-719-987-45	DIODE CL-155Y/PG-CD											
D122	8-719-987-45	DIODE CL-155Y/PG-CD											
D123	8-719-987-45	DIODE CL-155Y/PG-CD											
D124	8-719-987-45	DIODE CL-155Y/PG-CD											
D125	8-719-987-45	DIODE CL-155Y/PG-CD											
D126	8-719-987-45	DIODE CL-155Y/PG-CD											
D127	8-719-987-45	DIODE CL-155Y/PG-CD											
D128	8-719-987-45	DIODE CL-155Y/PG-CD											
D129	8-719-987-45	DIODE CL-155Y/PG-CD											
D130	8-719-987-45	DIODE CL-155Y/PG-CD											
		<IC>											
IC101	8-759-342-19	IC NJU3716M-T2											
IC102	8-759-342-19	IC NJU3716M-T2											
		<TRANSISTOR>											
Q101	8-729-921-12	TRANSISTOR 2SD1834											
Q102	8-729-921-12	TRANSISTOR 2SD1834											
Q103	1-801-806-11	TRANSISTOR DTC144EKA-T146											
		<RESISTOR>											
R101	1-216-043-91	RES,CHIP	560	5%	1/10W								
R102	1-216-043-91	RES,CHIP	560	5%	1/10W								
R103	1-216-043-91	RES,CHIP	560	5%	1/10W								
R104	1-216-043-91	RES,CHIP	560	5%	1/10W								
R105	1-216-043-91	RES,CHIP	560	5%	1/10W								
R106	1-216-043-91	RES,CHIP	560	5%	1/10W								
R107	1-216-043-91	RES,CHIP	560	5%	1/10W								
R108	1-216-043-91	RES,CHIP	560	5%	1/10W								
R109	1-216-043-91	RES,CHIP	560	5%	1/10W								
R110	1-216-043-91	RES,CHIP	560	5%	1/10W								
R112	1-216-097-91	RES,CHIP	100K	5%	1/10W								
R113	1-216-049-91	RES,CHIP	1K	5%	1/10W								
R114	1-216-049-91	RES,CHIP	1K	5%	1/10W								
R115	1-216-049-91	RES,CHIP	1K	5%	1/10W								
R116	1-216-097-91	RES,CHIP	100K	5%	1/10W								
R117	1-216-065-91	RES,CHIP	4.7K	5%	1/10W								
R121	1-216-085-00	RES,CHIP	33K	5%	1/10W								
R122	1-216-095-00	RES,CHIP	82K	5%	1/10W								
R123	1-216-085-00	RES,CHIP	33K	5%	1/10W								
R124	1-216-095-00	RES,CHIP	82K	5%	1/10W								
R125	1-216-089-91	RES,CHIP	47K	5%	1/10W								
R126	1-216-089-91	RES,CHIP	47K	5%	1/10W								
R127	1-216-089-91	RES,CHIP	47K	5%	1/10W								
		<SWITCH>											
S101	1-692-037-31	SWITCH, KEY BOARD (SHIFT)											
S102	1-692-037-31	SWITCH, KEY BOARD (/16.9)											

BVM-D14H1U/D14H5U/D14H1E/D14H5E/D14H1A/D14H5A

Ref.No.	Part No.	Description	Remark	Ref.No.	Part No.	Description	Remark
	* A-1306-572-A	MA COMPL *****		C165	1-126-400-11	ELECT CHIP 22μF 20%	35V
	1-540-222-11	SOCKET, IC (PCC PACKAGE) 84P		C166	1-126-392-11	ELECT CHIP 100μF 20%	6.3V
	1-550-104-11	HOLDER, BATTERY		C168	1-126-392-11	ELECT CHIP 100μF 20%	6.3V
		BATTERY, LITHIUM CR2025		C169	1-163-031-11	CERAMIC CHIP 0.01μF	50V
				C171	1-163-031-11	CERAMIC CHIP 0.01μF	50V
				C172	1-126-392-11	ELECT CHIP 100μF 20%	6.3V
		<CAPACITOR>				<CONNECTOR>	
C101	1-163-031-11	CERAMIC CHIP 0.01μF	50V	CN101	* 1-564-525-11	PLUG, CONNECTOR 10P	
C102	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	CN102	* 1-793-722-11	PIN, CONNECTOR (PC BOARD) 50P	
C103	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	CN103	* 1-564-522-11	PLUG, CONNECTOR 7P	
C104	1-163-031-11	CERAMIC CHIP 0.01μF	50V	CN105	* 1-564-524-11	PLUG, CONNECTOR 9P	
C105	1-163-235-11	CERAMIC CHIP 22PF 5%	50V			<DIODE>	
C106	1-163-227-11	CERAMIC CHIP 10PF 0.5PF	50V	D101	8-719-158-19	DIODE RD6.2SB	
C108	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	D102	8-719-158-19	DIODE RD6.2SB	
C109	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	D103	8-719-158-19	DIODE RD6.2SB	
C110	1-163-031-11	CERAMIC CHIP 0.01μF	50V	D104	8-719-158-19	DIODE RD6.2SB	
C111	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	D109	8-719-158-19	DIODE RD6.2SB	
C112	1-126-392-11	ELECT CHIP 100μF 20%	6.3V			<FILTER>	
C113	1-163-031-11	CERAMIC CHIP 0.01μF	50V	FL103	1-239-183-11	FILTER, EMI	
C114	1-163-031-11	CERAMIC CHIP 0.01μF	50V	FL104	1-239-183-11	FILTER, EMI	
C115	1-163-031-11	CERAMIC CHIP 0.01μF	50V	FL105	1-239-183-11	FILTER, EMI	
C116	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	FL107	1-239-183-11	FILTER, EMI	
C117	1-163-031-11	CERAMIC CHIP 0.01μF	50V	FL108	1-239-183-11	FILTER, EMI	
C118	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	FL109	1-239-183-11	FILTER, EMI	
C119	1-163-031-11	CERAMIC CHIP 0.01μF	50V	FL110	1-239-183-11	FILTER, EMI	
C120	1-163-031-11	CERAMIC CHIP 0.01μF	50V	FL111	1-239-183-11	FILTER, EMI	
C121	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	FL112	1-239-183-11	FILTER, EMI	
C122	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	FL113	1-239-183-11	FILTER, EMI	
C123	1-163-031-11	CERAMIC CHIP 0.01μF	50V	FL114	1-236-071-11	ENCAPSULATED COMPONENT	
C124	1-163-031-11	CERAMIC CHIP 0.01μF	50V	FL115	1-236-071-11	ENCAPSULATED COMPONENT	
C125	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	FL117	1-236-071-11	ENCAPSULATED COMPONENT	
C126	1-163-031-11	CERAMIC CHIP 0.01μF	50V	FL120	1-239-183-11	FILTER, EMI	
C127	1-163-031-11	CERAMIC CHIP 0.01μF	50V	FL123	1-239-183-11	FILTER, EMI	
C128	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	FL124	1-239-183-11	FILTER, EMI	
C129	1-126-392-11	ELECT CHIP 100μF 20%	6.3V			<IC>	
C130	1-163-031-11	CERAMIC CHIP 0.01μF	50V	IC101	8-759-186-44	IC TC74VHC125F	
C131	1-163-031-11	CERAMIC CHIP 0.01μF	50V	IC102	8-759-082-59	IC TC7W32FU	
C132	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	IC103	8-759-925-75	IC SN74HC05ANS	
C133	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	IC104	8-759-239-98	IC TC74HC30AF	
C134	1-163-031-11	CERAMIC CHIP 0.01μF	50V	IC106	8-759-644-13	IC HD6435368AX06M	
C135	1-163-031-11	CERAMIC CHIP 0.01μF	50V	IC107	8-759-081-44	IC TC74VHC04F	
C136	1-126-392-11	ELECT CHIP 100μF 20%	6.3V	IC108	8-759-553-93	IC MBM29F400BC-90PF	
C137	1-163-031-11	CERAMIC CHIP 0.01μF	50V	IC109	8-759-186-47	IC TC74VHC138F	
C139	1-163-031-11	CERAMIC CHIP 0.01μF	50V	IC110	8-759-346-07	IC MM1026BFB	
C140	1-163-031-11	CERAMIC CHIP 0.01μF	50V	IC111	8-759-497-29	IC LC35256DM-70-TLM	
C141	1-163-031-11	CERAMIC CHIP 0.01μF	50V	IC112	8-752-381-84	IC CXD1095BQ	
C142	1-163-031-11	CERAMIC CHIP 0.01μF	50V	IC113	8-759-575-91	IC MAX490ECSA	
C144	1-163-031-11	CERAMIC CHIP 0.01μF	50V			<CHIP CONDUCTOR>	
C145	1-163-031-11	CERAMIC CHIP 0.01μF	50V	JR101	1-216-295-91	SHORT 0	
C147	1-163-031-11	CERAMIC CHIP 0.01μF	50V	JR102	1-216-295-91	CONDUCTOR,CHIP 0	
C148	1-163-031-11	CERAMIC CHIP 0.01μF	50V	JR103	1-216-097-91	RES,CHIP 100K 5%	1/10W
C149	1-126-392-11	ELECT CHIP 100μF 20%	6.3V			<COIL>	
C150	1-163-031-11	CERAMIC CHIP 0.01μF	50V	L101	1-412-537-31	INDUCTOR 100μH	
C151	1-163-031-11	CERAMIC CHIP 0.01μF	50V				
C153	1-163-031-11	CERAMIC CHIP 0.01μF	50V				
C154	1-163-031-11	CERAMIC CHIP 0.01μF	50V				
C159	1-126-392-11	ELECT CHIP 100μF 20%	6.3V				
C160	1-163-031-11	CERAMIC CHIP 0.01μF	50V				
C161	1-163-031-11	CERAMIC CHIP 0.01μF	50V				
C162	1-163-031-11	CERAMIC CHIP 0.01μF	50V				
C163	1-126-392-11	ELECT CHIP 100μF 20%	6.3V				
C164	1-163-031-11	CERAMIC CHIP 0.01μF	50V				

Ref.No.	Part No.	Description	Remark				Ref.No.	Part No.	Description	Remark			
<TRANSISTOR>							R160	1-216-073-00	RES,CHIP	10K	5%	1/10W	
Q102	8-729-027-38	TRANSISTOR DTA144EKA-T146					R161	1-216-097-91	RES,CHIP	100K	5%	1/10W	
Q103	1-801-806-11	TRANSISTOR DTC144EKA-T146					R162	1-216-097-91	RES,CHIP	100K	5%	1/10W	
Q104	1-801-806-11	TRANSISTOR DTC144EKA-T146					R163	1-216-097-91	RES,CHIP	100K	5%	1/10W	
Q105	8-729-903-46	TRANSISTOR 2SB1132-P					R164	1-216-097-91	RES,CHIP	100K	5%	1/10W	
Q106	8-729-903-46	TRANSISTOR 2SB1132-P					R165	1-216-097-91	RES,CHIP	100K	5%	1/10W	
<RESISTOR>							R166	1-216-025-91	RES,CHIP	100	5%	1/10W	
							R167	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R101	1-216-097-91	RES,CHIP	100K	5%	1/10W		R168	1-216-025-91	RES,CHIP	100	5%	1/10W	
R102	1-216-097-91	RES,CHIP	100K	5%	1/10W		R169	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R103	1-216-025-91	RES,CHIP	100	5%	1/10W		R170	1-216-025-91	RES,CHIP	100	5%	1/10W	
R104	1-216-025-91	RES,CHIP	100	5%	1/10W		R171	1-216-025-91	RES,CHIP	100	5%	1/10W	
R105	1-216-097-91	RES,CHIP	100K	5%	1/10W		R172	1-216-053-00	RES,CHIP	1.5K	5%	1/10W	
R106	1-216-097-91	RES,CHIP	100K	5%	1/10W		R173	1-216-025-91	RES,CHIP	100	5%	1/10W	
R107	1-216-097-91	RES,CHIP	100K	5%	1/10W		R178	1-216-053-00	RES,CHIP	1.5K	5%	1/10W	
R108	1-216-097-91	RES,CHIP	100K	5%	1/10W		R179	1-216-047-91	RES,CHIP	820	5%	1/10W	
R109	1-216-097-91	RES,CHIP	100K	5%	1/10W		R180	1-216-073-00	RES,CHIP	10K	5%	1/10W	
R110	1-216-097-91	RES,CHIP	100K	5%	1/10W		R181	1-216-025-91	RES,CHIP	100	5%	1/10W	
R111	1-216-097-91	RES,CHIP	100K	5%	1/10W		R182	1-216-025-91	RES,CHIP	100	5%	1/10W	
R112	1-216-097-91	RES,CHIP	100K	5%	1/10W		R183	1-216-073-00	RES,CHIP	10K	5%	1/10W	
R113	1-216-025-91	RES,CHIP	100	5%	1/10W		R184	1-216-025-91	RES,CHIP	100	5%	1/10W	
R115	1-216-025-91	RES,CHIP	100	5%	1/10W		R185	1-216-025-91	RES,CHIP	100	5%	1/10W	
R116	1-216-025-91	RES,CHIP	100	5%	1/10W		R186	1-216-025-91	RES,CHIP	100	5%	1/10W	
R117	1-216-025-91	RES,CHIP	100	5%	1/10W		R187	1-216-025-91	RES,CHIP	100	5%	1/10W	
R118	1-216-097-91	RES,CHIP	100K	5%	1/10W		R188	1-216-025-91	RES,CHIP	100	5%	1/10W	
R119	1-216-097-91	RES,CHIP	100K	5%	1/10W		R189	1-216-025-91	RES,CHIP	100	5%	1/10W	
R120	1-216-025-91	RES,CHIP	100	5%	1/10W		R190	1-216-033-00	RES,CHIP	220	5%	1/10W	
R121	1-216-097-91	RES,CHIP	100K	5%	1/10W		R191	1-216-033-00	RES,CHIP	220	5%	1/10W	
R122	1-216-025-91	RES,CHIP	100	5%	1/10W		R192	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R123	1-216-121-91	RES,CHIP	1M	5%	1/10W		R193	1-216-033-00	RES,CHIP	220	5%	1/10W	
R124	1-216-025-91	RES,CHIP	100	5%	1/10W		R194	1-216-033-00	RES,CHIP	220	5%	1/10W	
R125	1-216-065-91	RES,CHIP	4.7K	5%	1/10W		R195	1-216-033-00	RES,CHIP	220	5%	1/10W	
R126	1-216-025-91	RES,CHIP	100	5%	1/10W		R196	1-216-073-00	RES,CHIP	10K	5%	1/10W	
R127	1-216-065-91	RES,CHIP	4.7K	5%	1/10W		R197	1-216-073-00	RES,CHIP	10K	5%	1/10W	
R128	1-216-097-91	RES,CHIP	100K	5%	1/10W		R198	1-216-097-91	RES,CHIP	100K	5%	1/10W	
R129	1-216-097-91	RES,CHIP	100K	5%	1/10W		<THERMISTOR>						
R130	1-216-049-91	RES,CHIP	1K	5%	1/10W		THP101	1-771-075-21	THERMISTOR, POSITIVE				
R131	1-216-049-91	RES,CHIP	1K	5%	1/10W		THP102	1-771-075-21	THERMISTOR, POSITIVE				
R132	1-216-097-91	RES,CHIP	100K	5%	1/10W		<TEST PIN>						
R133	1-216-049-91	RES,CHIP	1K	5%	1/10W		TP110	* 1-537-864-11	PIN, POST				
R134	1-216-049-91	RES,CHIP	1K	5%	1/10W		TP111	* 1-537-864-11	PIN, POST				
R135	1-216-073-00	RES,CHIP	10K	5%	1/10W		TP112	* 1-537-864-11	PIN, POST				
R136	1-216-073-00	RES,CHIP	10K	5%	1/10W		TP113	* 1-537-864-11	PIN, POST				
R137	1-216-073-00	RES,CHIP	10K	5%	1/10W		TP114	* 1-537-864-11	PIN, POST				
R138	1-216-097-91	RES,CHIP	100K	5%	1/10W		<CRYSTAL>						
R139	1-216-049-91	RES,CHIP	1K	5%	1/10W		X1011-767-892-21	VIBRATOR, CRYSTAL (20 MHz)					
R140	1-216-097-91	RES,CHIP	100K	5%	1/10W		*****						
R141	1-216-049-91	RES,CHIP	1K	5%	1/10W		* A-1306-571-A MB COMPL						
R142	1-216-097-91	RES,CHIP	100K	5%	1/10W		*****						
R143	1-216-049-91	RES,CHIP	1K	5%	1/10W		7-432-114-11 SCREW LOCK						
R144	1-216-097-91	RES,CHIP	100K	5%	1/10W		<CAPACITOR>						
R145	1-216-049-91	RES,CHIP	1K	5%	1/10W		C1100	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	
R146	1-216-097-91	RES,CHIP	100K	5%	1/10W		C1101	1-165-319-11	CERAMIC CHIP	0.1μF		50V	
R147	1-216-049-91	RES,CHIP	1K	5%	1/10W		C1102	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	
R148	1-216-097-91	RES,CHIP	100K	5%	1/10W								
R150	1-216-097-91	RES,CHIP	100K	5%	1/10W								
R151	1-216-097-91	RES,CHIP	100K	5%	1/10W								
R152	1-216-073-00	RES,CHIP	10K	5%	1/10W								
R153	1-216-073-00	RES,CHIP	10K	5%	1/10W								
R154	1-216-097-91	RES,CHIP	100K	5%	1/10W								
R155	1-216-097-91	RES,CHIP	100K	5%	1/10W								
R156	1-216-097-91	RES,CHIP	100K	5%	1/10W								
R157	1-216-097-91	RES,CHIP	100K	5%	1/10W								
R158	1-216-073-00	RES,CHIP	10K	5%	1/10W								
R159	1-216-049-91	RES,CHIP	1K	5%	1/10W								

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark
C1103	1-165-319-11	CERAMIC CHIP	0.1μF		50V	CN1103	1-695-581-21	CONNECTOR, D SUB	
C1104	1-163-031-11	CERAMIC CHIP	0.01μF		50V	CN1104	1-695-581-21	CONNECTOR, D SUB	
C1105	1-163-031-11	CERAMIC CHIP	0.01μF		50V	CN1105	* 1-564-524-11	PLUG, CONNECTOR 9P	
C1106	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	CN1106	* 1-564-522-11	PLUG, CONNECTOR 7P	
C1107	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	CN1107	1-695-581-21	CONNECTOR, D SUB	
C1108	1-163-233-11	CERAMIC CHIP	18PF	5%	50V	CN1109	1-793-721-11	JACK, MODULAR	
C1109	1-163-031-11	CERAMIC CHIP	0.01μF		50V			<DIODE>	
C1110	1-163-231-11	CERAMIC CHIP	15PF	5%	50V	D1100	8-719-158-19	DIODE RD6.2SB	
C1111	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	D1101	8-719-158-19	DIODE RD6.2SB	
C1112	1-163-031-11	CERAMIC CHIP	0.01μF		50V	D1102	8-719-158-19	DIODE RD6.2SB	
C1114	1-163-031-11	CERAMIC CHIP	0.01μF		50V	D1103	8-719-158-19	DIODE RD6.2SB	
C1115	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	D1104	8-719-037-22	DIODE RD12SB-T1	
C1116	1-163-031-11	CERAMIC CHIP	0.01μF		50V	D1105	8-719-037-22	DIODE RD12SB-T1	
C1117	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	D1106	8-719-037-22	DIODE RD12SB-T1	
C1118	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	D1107	8-719-037-22	DIODE RD12SB-T1	
C1119	1-107-682-11	CERAMIC CHIP	1μF	10%	16V	D1108	8-719-037-22	DIODE RD12SB-T1	
C1120	1-163-031-11	CERAMIC CHIP	0.01μF		50V	D1109	8-719-037-22	DIODE RD12SB-T1	
C1121	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	D1110	8-719-158-19	DIODE RD6.2SB	
C1122	1-165-319-11	CERAMIC CHIP	0.1μF		50V	D1111	8-719-158-19	DIODE RD6.2SB	
C1123	1-163-031-11	CERAMIC CHIP	0.01μF		50V	D1112	8-719-158-19	DIODE RD6.2SB	
C1124	1-165-319-11	CERAMIC CHIP	0.1μF		50V	D1113	8-719-158-19	DIODE RD6.2SB	
C1125	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	D1114	8-719-158-19	DIODE RD6.2SB	
C1126	1-165-319-11	CERAMIC CHIP	0.1μF		50V	D1115	8-719-158-19	DIODE RD6.2SB	
C1127	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	D1116	8-719-158-19	DIODE RD6.2SB	
C1128	1-165-319-11	CERAMIC CHIP	0.1μF		50V	D1117	8-719-158-19	DIODE RD6.2SB	
C1129	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	D1118	8-719-158-19	DIODE RD6.2SB	
C1130	1-126-206-11	ELECT CHIP	100μF	20%	6.3V			<FILTER>	
C1131	1-163-031-11	CERAMIC CHIP	0.01μF		50V	FL1100	1-239-183-11	FILTER, EMI	
C1132	1-165-319-11	CERAMIC CHIP	0.1μF		50V	FL1101	1-239-183-11	FILTER, EMI	
C1133	1-165-319-11	CERAMIC CHIP	0.1μF		50V	FL1102	1-239-183-11	FILTER, EMI	
C1134	1-165-319-11	CERAMIC CHIP	0.1μF		50V	FL1103	1-239-183-11	FILTER, EMI	
C1135	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	FL1108	1-239-183-11	FILTER, EMI	
C1136	1-107-682-11	CERAMIC CHIP	1μF	10%	16V	FL1109	1-239-183-11	FILTER, EMI	
C1137	1-165-319-11	CERAMIC CHIP	0.1μF		50V	FL1110	1-239-183-11	FILTER, EMI	
C1138	1-165-319-11	CERAMIC CHIP	0.1μF		50V	FL1111	1-239-183-11	FILTER, EMI	
C1139	1-165-319-11	CERAMIC CHIP	0.1μF		50V	FL1112	1-239-183-11	FILTER, EMI	
C1140	1-165-319-11	CERAMIC CHIP	0.1μF		50V	FL1113	1-239-183-11	FILTER, EMI	
C1141	1-163-031-11	CERAMIC CHIP	0.01μF		50V	FL1114	1-239-183-11	FILTER, EMI	
C1142	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	FL1115	1-239-183-11	FILTER, EMI	
C1143	1-163-031-11	CERAMIC CHIP	0.01μF		50V	FL1116	1-239-183-11	FILTER, EMI	
C1144	1-163-031-11	CERAMIC CHIP	0.01μF		50V	FL1117	1-239-183-11	FILTER, EMI	
C1145	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	FL1118	1-239-183-11	FILTER, EMI	
C1146	1-163-031-11	CERAMIC CHIP	0.01μF		50V	FL1119	1-239-183-11	FILTER, EMI	
C1147	1-163-031-11	CERAMIC CHIP	0.01μF		50V	FL1120	1-239-183-11	FILTER, EMI	
C1148	1-163-031-11	CERAMIC CHIP	0.01μF		50V	FL1121	1-239-183-11	FILTER, EMI	
C1149	1-163-031-11	CERAMIC CHIP	0.01μF		50V			<IC>	
C1150	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	IC1100	8-759-186-26	IC TC74VHC02F	
C1151	1-163-031-11	CERAMIC CHIP	0.01μF		50V	IC1101	8-759-186-44	IC TC74VHC125F	
C1152	1-163-031-11	CERAMIC CHIP	0.01μF		50V	IC1102	8-759-081-44	IC TC74VHC04F	
C1153	1-163-031-11	CERAMIC CHIP	0.01μF		50V	IC1103	8-759-397-01	IC MAX487CSA-TE2	
C1154	1-163-031-11	CERAMIC CHIP	0.01μF		50V	IC1104	8-759-186-30	IC TC74VHC14F	
C1155	1-163-031-11	CERAMIC CHIP	0.01μF		50V	IC1105	8-759-594-45	IC MAX3100CEE-TG068	
C1156						IC1106	8-759-397-01	IC MAX487CSA-TE2	
C1157	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	IC1107	8-759-522-14	IC MB90096PF-G-127-BND-ER	
C1158	1-163-031-11	CERAMIC CHIP	0.01μF		50V	IC1108	8-759-594-45	IC MAX3100CEE-TG068	
C1159	1-126-206-11	ELECT CHIP	100μF	20%	6.3V	IC1109	8-759-252-59	IC MAX202CSE	
C1160	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	IC1110	8-759-594-46	IC MB90096PF-178	
C1161	1-163-021-91	CERAMIC CHIP	0.01μF	10%	50V	IC1112	8-759-454-11	IC MC74HC589AFEL	
C1162	1-164-690-91	CERAMIC CHIP	0.0022μF	5%	50V				
C1180	1-163-243-11	CERAMIC CHIP	47PF	5%	50V				
<CONNECTOR>									
CN1100	* 1-564-524-11	PLUG, CONNECTOR 9P							
CN1101	* 1-564-527-11	PLUG, CONNECTOR 12P							
CN1102	* 1-793-722-11	PIN, CONNECTOR (PC BOARD) 50P							

Ref.No.	Part No.	Description	Remark			Ref.No.	Part No.	Description	Remark		
<COIL>						R1167	1-216-089-91	RES,CHIP	47K	5%	1/10W
L1100	1-412-537-31	INDUCTOR	100μH			R1170	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
L1101	1-412-537-31	INDUCTOR	100μH			R1171	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
L1102	1-412-537-31	INDUCTOR	100μH			R1172	1-216-089-91	RES,CHIP	47K	5%	1/10W
<RESISTOR>						R1173	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1100	1-216-025-91	RES,CHIP	100	5%	1/10W	R1174	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1101	1-216-025-91	RES,CHIP	100	5%	1/10W	R1175	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1102	1-216-025-91	RES,CHIP	100	5%	1/10W	R1176	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1103	1-216-025-91	RES,CHIP	100	5%	1/10W	R1177	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1104	1-216-025-91	RES,CHIP	100	5%	1/10W	R1180	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1106	1-216-025-91	RES,CHIP	100	5%	1/10W	R1181	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1107	1-216-025-91	RES,CHIP	100	5%	1/10W	R1182	1-216-025-91	RES,CHIP	100	5%	1/10W
R1108	1-216-077-91	RES,CHIP	15K	5%	1/10W	R1183	1-216-025-91	RES,CHIP	100	5%	1/10W
R1109	1-216-025-91	RES,CHIP	100	5%	1/10W	R1184	1-216-025-91	RES,CHIP	100	5%	1/10W
R1110	1-216-025-91	RES,CHIP	100	5%	1/10W	R1185	1-216-025-91	RES,CHIP	100	5%	1/10W
R1111	1-216-025-91	RES,CHIP	100	5%	1/10W	R1186	1-216-295-91	SHORT	0		
R1112	1-216-025-91	RES,CHIP	100	5%	1/10W	R1187	1-216-295-91	SHORT	0		
R1113	1-216-097-91	RES,CHIP	100K	5%	1/10W	R1188	1-216-295-91	SHORT	0		
R1114	1-216-025-91	RES,CHIP	100	5%	1/10W	R1189	1-216-295-91	SHORT	0		
R1115	1-216-025-91	RES,CHIP	100	5%	1/10W	<THERMISTOR>					
R1117	1-216-121-91	RES,CHIP	1M	5%	1/10W	TH1100	1-533-817-21	THERMISTOR			
R1118	1-216-077-91	RES,CHIP	15K	5%	1/10W	<TEST PIN>					
R1119	1-216-025-91	RES,CHIP	100	5%	1/10W	TP1100	* 1-537-864-11	PIN, POST			
R1120	1-216-097-91	RES,CHIP	100K	5%	1/10W	TP1101	* 1-537-864-11	PIN, POST			
R1121	1-216-097-91	RES,CHIP	100K	5%	1/10W	TP1102	* 1-537-864-11	PIN, POST			
R1122	1-216-097-91	RES,CHIP	100K	5%	1/10W	TP1103	* 1-537-864-11	PIN, POST			
R1123	1-216-097-91	RES,CHIP	100K	5%	1/10W	TP1104	* 1-537-864-11	PIN, POST			
R1125	1-216-097-91	RES,CHIP	100K	5%	1/10W	TP1106	* 1-537-864-11	PIN, POST			
R1126	1-216-097-91	RES,CHIP	100K	5%	1/10W	TP1107	* 1-537-864-11	PIN, POST			
R1127	1-216-097-91	RES,CHIP	100K	5%	1/10W	TP1108	* 1-537-864-11	PIN, POST			
R1128	1-216-097-91	RES,CHIP	100K	5%	1/10W	TP1109	* 1-537-864-11	PIN, POST			
R1130	1-216-089-91	RES,CHIP	47K	5%	1/10W	TP1110	* 1-537-864-11	PIN, POST			
R1131	1-216-097-91	RES,CHIP	100K	5%	1/10W	TP1111	* 1-537-864-11	PIN, POST			
R1132	1-216-097-91	RES,CHIP	100K	5%	1/10W	TP1112	* 1-537-864-11	PIN, POST			
R1133	1-216-089-91	RES,CHIP	47K	5%	1/10W	TP1113	* 1-537-864-11	PIN, POST			
R1136	1-216-089-91	RES,CHIP	47K	5%	1/10W	<CRYSTAL>					
R1137	1-216-295-91	SHORT	0			X1100	1-767-280-21	VIBRATOR, CRYSTAL (3.6864 MHz)			
R1138	1-216-625-11	METAL CHIP	82	0.50%	1/10W	*****					
R1140	1-216-638-11	METAL CHIP	300	0.50%	1/10W	* A-1390-942-A T MOUNT					
R1141	1-216-073-00	RES,CHIP	10K	5%	1/10W	*****					
R1142	1-216-073-00	RES,CHIP	10K	5%	1/10W	<CONNECTOR>					
R1143	1-216-073-00	RES,CHIP	10K	5%	1/10W	CN801	* 1-564-526-11	PLUG, CONNECTOR 11P			
R1144	1-216-073-00	RES,CHIP	10K	5%	1/10W	CN802	1-774-525-11	SOCKET, CONNECTOR 64P			
R1145	1-216-089-91	RES,CHIP	47K	5%	1/10W	CN803	1-774-525-11	SOCKET, CONNECTOR 64P			
R1147	1-216-295-91	SHORT	0			CN804	1-774-525-11	SOCKET, CONNECTOR 64P			
R1148	1-216-625-11	METAL CHIP	82	0.50%	1/10W	CN805	* 1-564-523-11	PLUG, CONNECTOR 8P			
R1149	1-216-638-11	METAL CHIP	300	0.50%	1/10W	CN806	* 1-564-525-11	PLUG, CONNECTOR 10P			
R1151	1-216-049-91	RES,CHIP	1K	5%	1/10W	*****					
R1152	1-216-049-91	RES,CHIP	1K	5%	1/10W	<CONNECTOR>					
R1153	1-216-049-91	RES,CHIP	1K	5%	1/10W	CN801	* 1-564-526-11	PLUG, CONNECTOR 11P			
R1154	1-216-049-91	RES,CHIP	1K	5%	1/10W	CN802	1-774-525-11	SOCKET, CONNECTOR 64P			
R1155	1-216-049-91	RES,CHIP	1K	5%	1/10W	CN803	1-774-525-11	SOCKET, CONNECTOR 64P			
R1156	1-216-049-91	RES,CHIP	1K	5%	1/10W	CN804	1-774-525-11	SOCKET, CONNECTOR 64P			
R1157	1-216-049-91	RES,CHIP	1K	5%	1/10W	CN805	* 1-564-523-11	PLUG, CONNECTOR 8P			
R1158	1-216-097-91	RES,CHIP	100K	5%	1/10W	CN806	* 1-564-525-11	PLUG, CONNECTOR 10P			
R1159	1-216-049-91	RES,CHIP	1K	5%	1/10W	*****					
R1160	1-216-097-91	RES,CHIP	100K	5%	1/10W	<CONNECTOR>					
R1161	1-216-097-91	RES,CHIP	100K	5%	1/10W	CN801	* 1-564-526-11	PLUG, CONNECTOR 11P			
R1162	1-216-097-91	RES,CHIP	100K	5%	1/10W	CN802	1-774-525-11	SOCKET, CONNECTOR 64P			
R1163	1-216-097-91	RES,CHIP	100K	5%	1/10W	CN803	1-774-525-11	SOCKET, CONNECTOR 64P			
R1164	1-216-097-91	RES,CHIP	100K	5%	1/10W	CN804	1-774-525-11	SOCKET, CONNECTOR 64P			
R1165	1-216-097-91	RES,CHIP	100K	5%	1/10W	CN805	* 1-564-523-11	PLUG, CONNECTOR 8P			
R1166	1-216-097-91	RES,CHIP	100K	5%	1/10W	CN806	* 1-564-525-11	PLUG, CONNECTOR 10P			

Ref.No.	Part No.	Description	Remark
	* A-1373-716-A YA MOUNT *****		
	<CONNECTOR>		
CN901	* 1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P	
	<DIODE>		
D901	8-719-064-11	DIODE SPR-325MVW	
D902	8-719-064-11	DIODE SPR-325MVW	
D903	8-719-064-11	DIODE SPR-325MVW	
D904	8-719-064-11	DIODE SPR-325MVW	
D905	8-719-064-11	DIODE SPR-325MVW	
	<RESISTOR>		
R901	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R902	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R903	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R904	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R905	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R906	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R907	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R908	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R909	1-216-049-11	RES,CHIP 1K 5% 1/10W	
R910	1-216-049-11	RES,CHIP 1K 5% 1/10W	

	* A-1373-717-A YB MOUNT (D14H1) *****		
	* A-1373-742-A YB MOUNT (D14H5) *****		
	<DIODE>		
D921	8-719-061-96	DIODE SLR-325DCT31	
D922	8-719-053-43	DIODE SLR-325VCT31	
D923	8-719-060-27	DIODE SLR-325MCT31	

Ref.No.	Part No.	Description	Remark
	* A-1373-718-A	YC MOUNT (D14H1)	

	* A-1373-743-A	YC MOUNT (D14H5)	

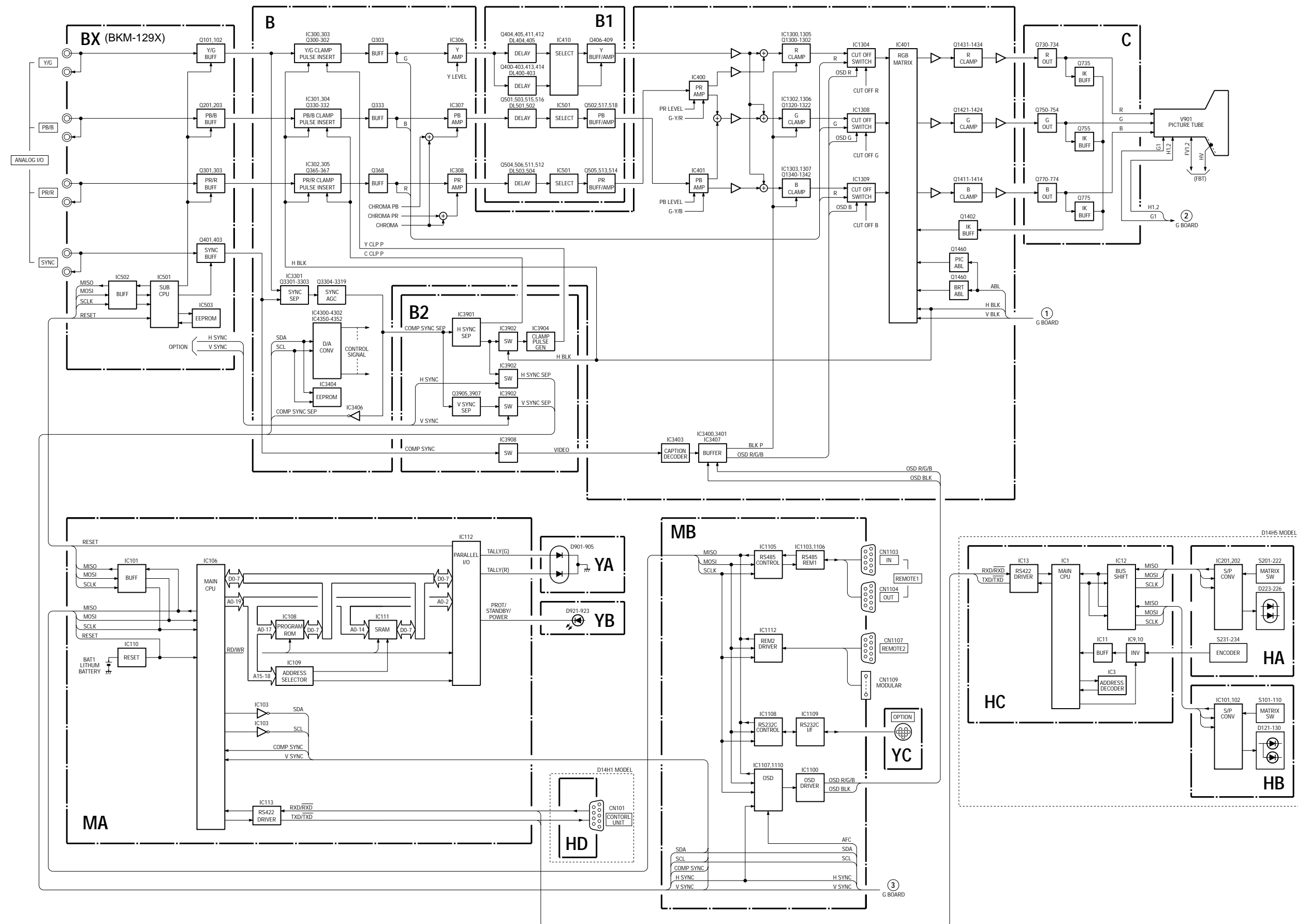
		<CONNECTOR>	
CN931	* 1-564-724-11	PIN, CONNECTOR (SMALL TYPE) 8P	
CN932	1-774-533-11	SOCKET, SMALL TYPE DIN (8P)	
		<DIODE>	
D931	8-719-037-22	DIODE RD12SB-T1	
D932	8-719-037-22	DIODE RD12SB-T1	
D933	8-719-037-22	DIODE RD12SB-T1	
D934	8-719-037-22	DIODE RD12SB-T1	
D935	8-719-158-19	DIODE RD6.2SB	
D936	8-719-037-22	DIODE RD12SB-T1	
D937	8-719-037-22	DIODE RD12SB-T1	
		<CHIP CONDUCTOR>	
JR931	1-216-295-91	SHORT	0
JR932	1-216-295-91	SHORT	0

		ACCESSORIES	

	△ 1-534-827-14	CORD, POWER 10A/125V (For US)	
	3-170-078-01	HOLDER (B), PLUG (POWER CORD)	
	3-867-938-01	MANUAL, OPERATION	
		(JAPANESE/ENGLISH)	
	4-051-743-01	PLATE, TALLY	
	X-4037-287-1	MASK (4:3) ASSY	

Section 10 Block Diagrams

Overall (1/2)



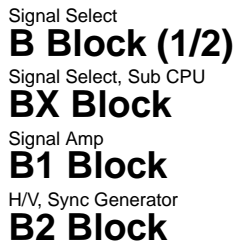
Overall (1/2)

Overall (2/2)

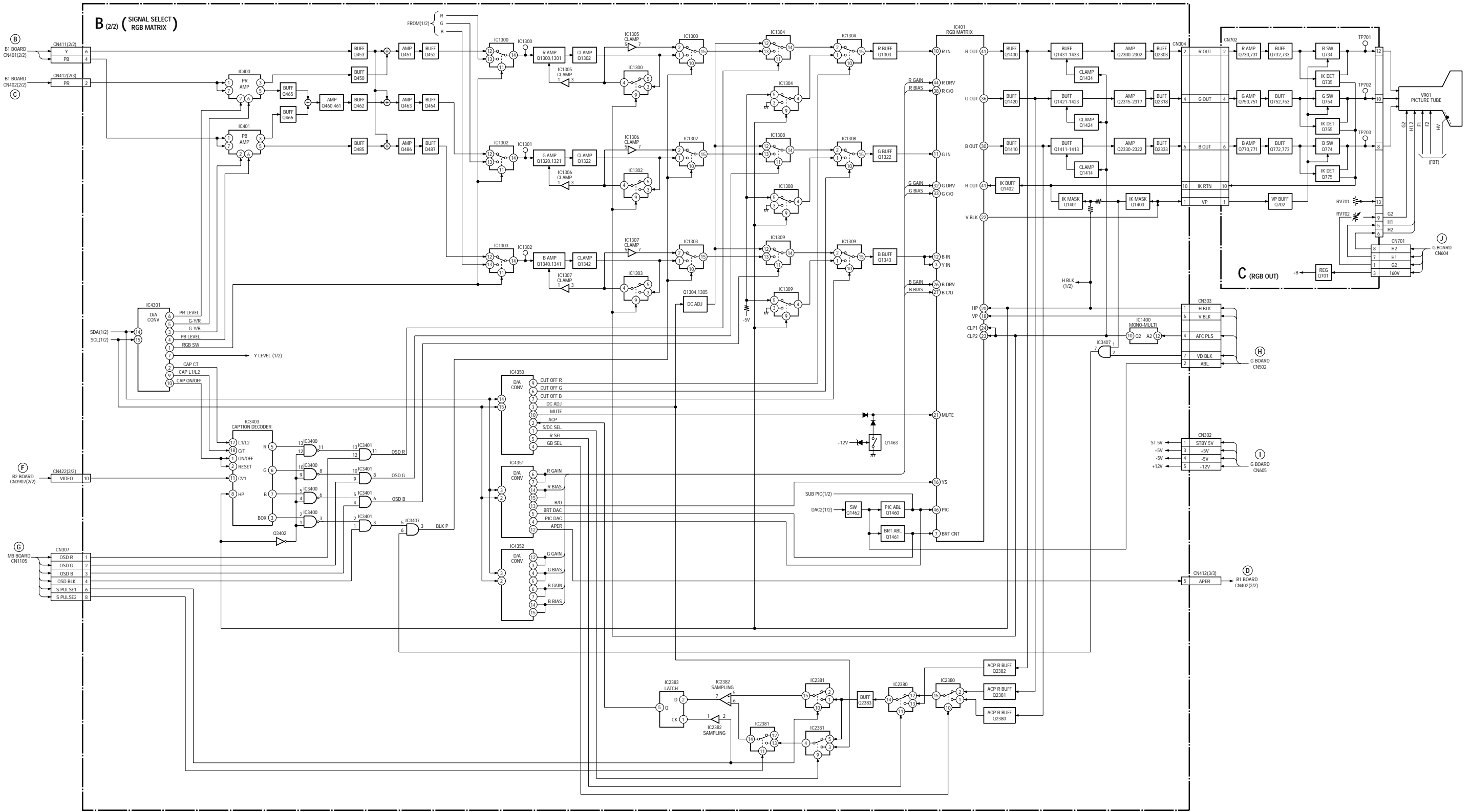
Overall (2/2)

B (1/2) /BX, B1, B2

B Block (1/2)
BX Block
B1 Block
B2 Block

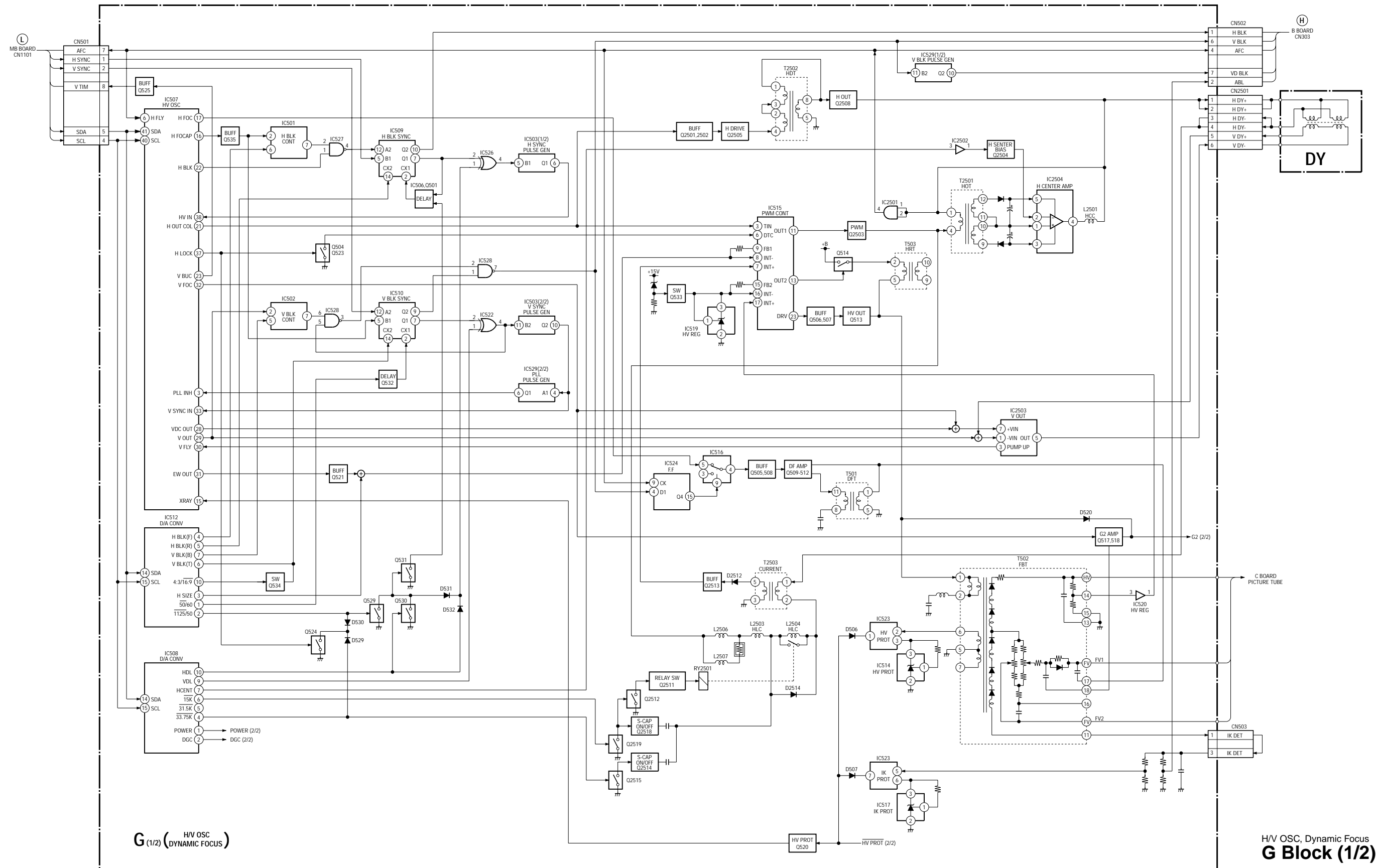


B Block (2/2)
C Block

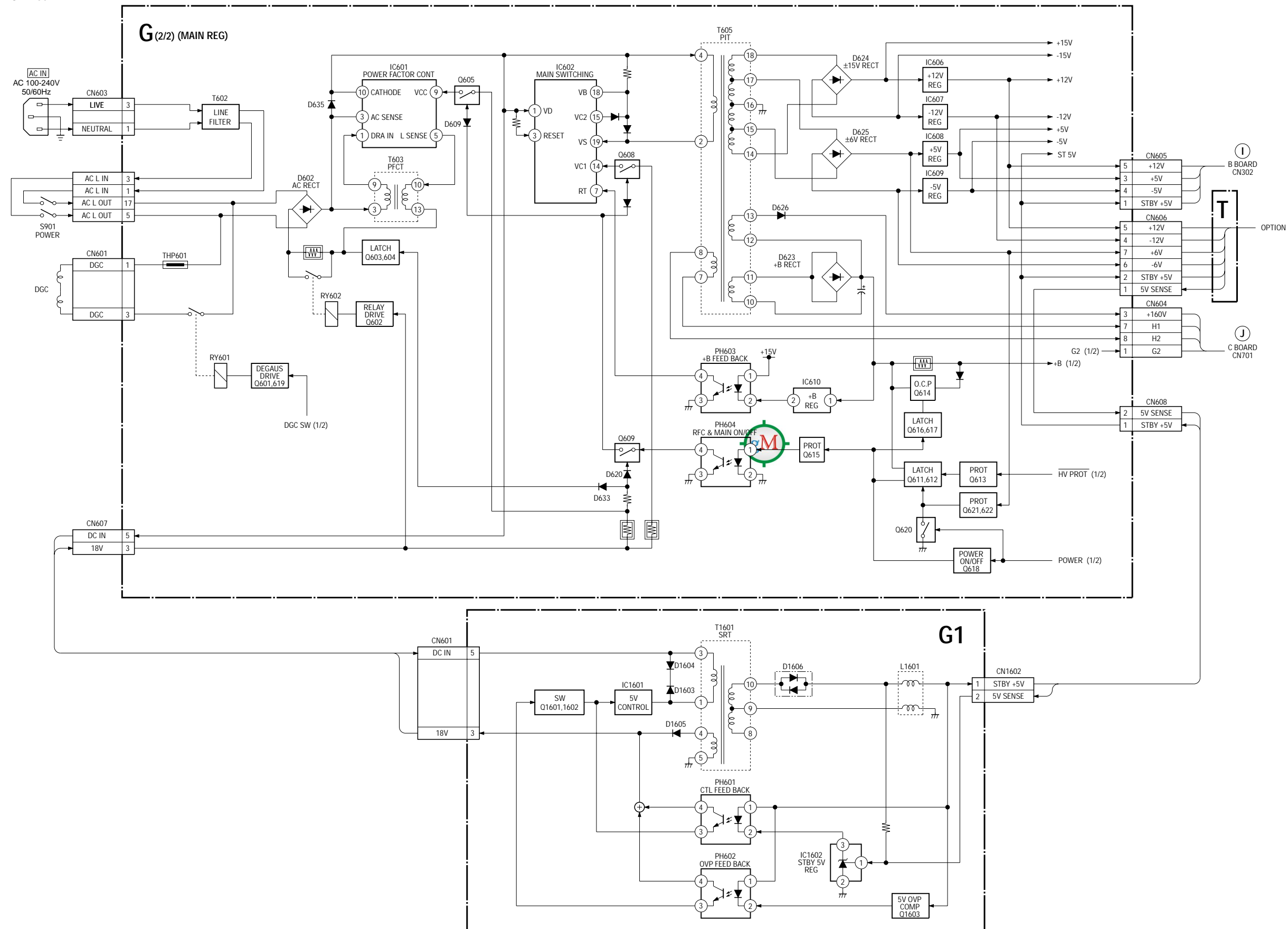


Signal Select, RGB Matrix
B Block (2/2)
RGB Out
C Block

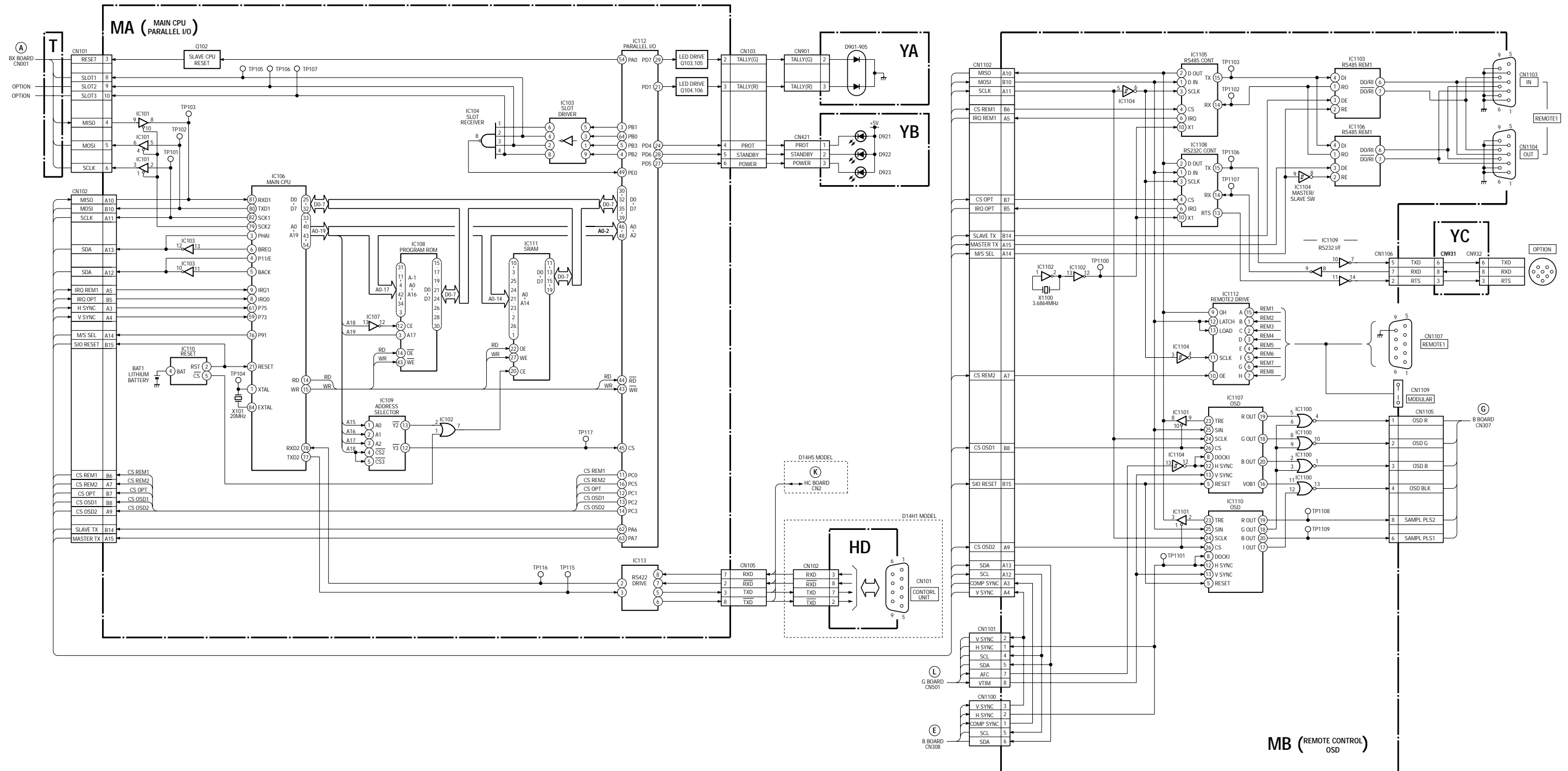
G Block (1/2)



G Block (2/2)
G1 Block

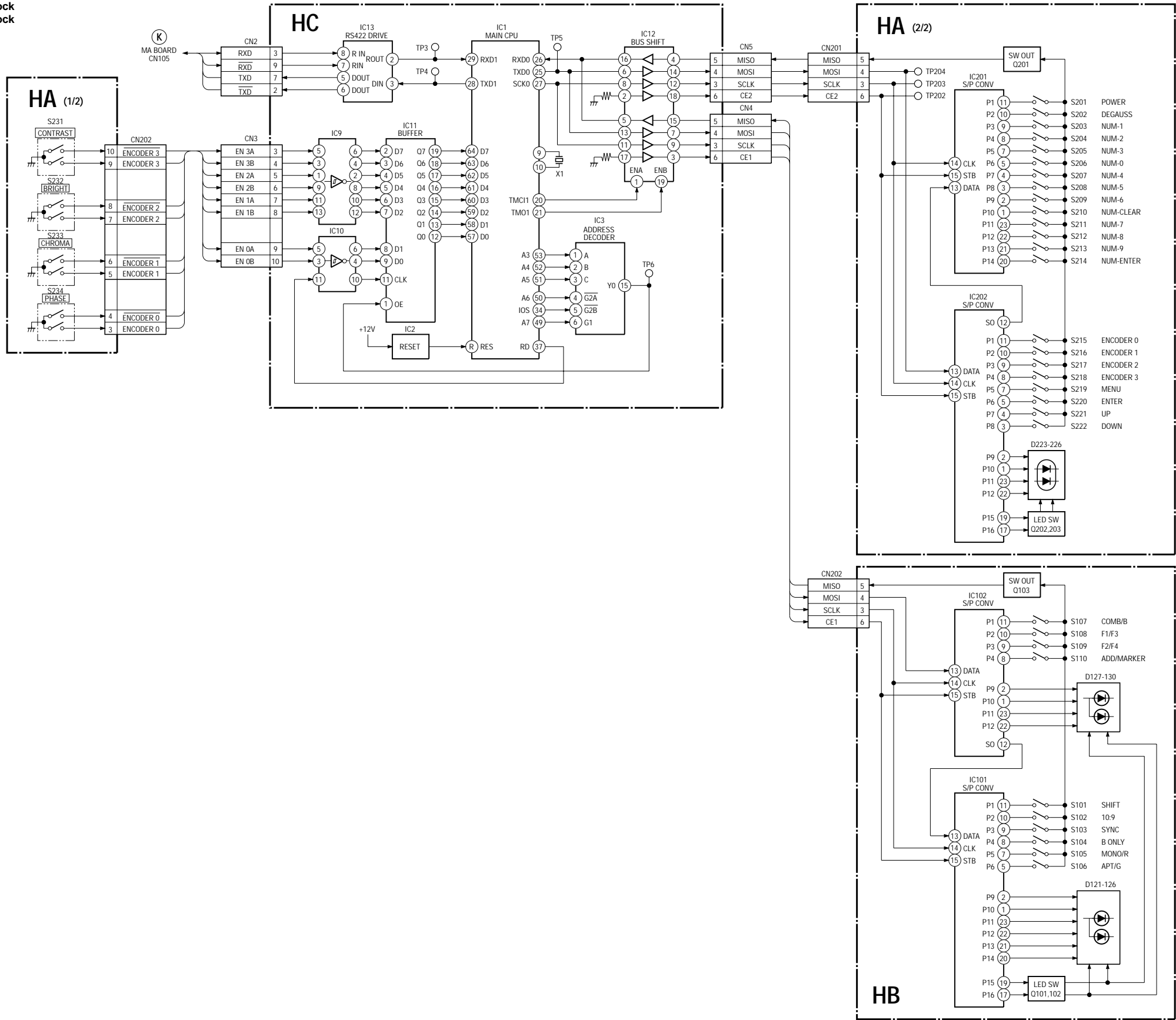


MA Block
MB Block



Main CPU, Parallel I/O
MA Block
Remote Control OSD
MB Block




HA Block
HB Block
HC Block



Switch
HA Block
Serial to Parallel Converter
HB Block
Main CPU
HC Block




Section 11
Diagrams

Note:




- Parts marked “ * ” differ according to the model/destination. Refer to the mount table for each function.
- The parts marked “ # ” on schematic diagrams are not mounted.
- All capacitors are in μF unless otherwise noted. pF : $\mu\mu\text{F}$ 50WV or less are not indicated except for electrolytics.
- All electrolytics are in 50 V unless otherwise specified.
-  : fusible resistor
-  : nonflammable resistor
- Δ : internal component
-  : panel designation and adjustment for repair
- Caution when replacing chip parts
New parts must be attached after removal of the chip.
Be careful not to heat the minus side of a tantalum capacitor, because it is easily damaged by the heat.

Reference information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
COIL	※	: ADJUSTMENT RESISTOR
	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE


- The components marked  in this schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
- When replacing components marked  , make the necessary adjustments indicated. If results do not meet the specified value, change the component marked  and repeat the adjustment until the specified value is achieved.
- When replacing a part shown in the table below, be sure to perform the related adjustment.

[Measuring conditions, voltage and waveform]

- A voltage value is the reference value between the measurement point and the earth, when the RGB color bar signal is received (digital multi-meter used: 10 M ohms/V DC).
- Unit of voltage is V (volt).
-  : B+line
-  : B— line
- Voltage variations may occur due to normal production tolerances.
- RGB color bar signal.
- Circled numbers indicate the reference waveform.
-  : Signal path.

The components identified marked Δ are critical for safety.
Replace only with the part number specified.

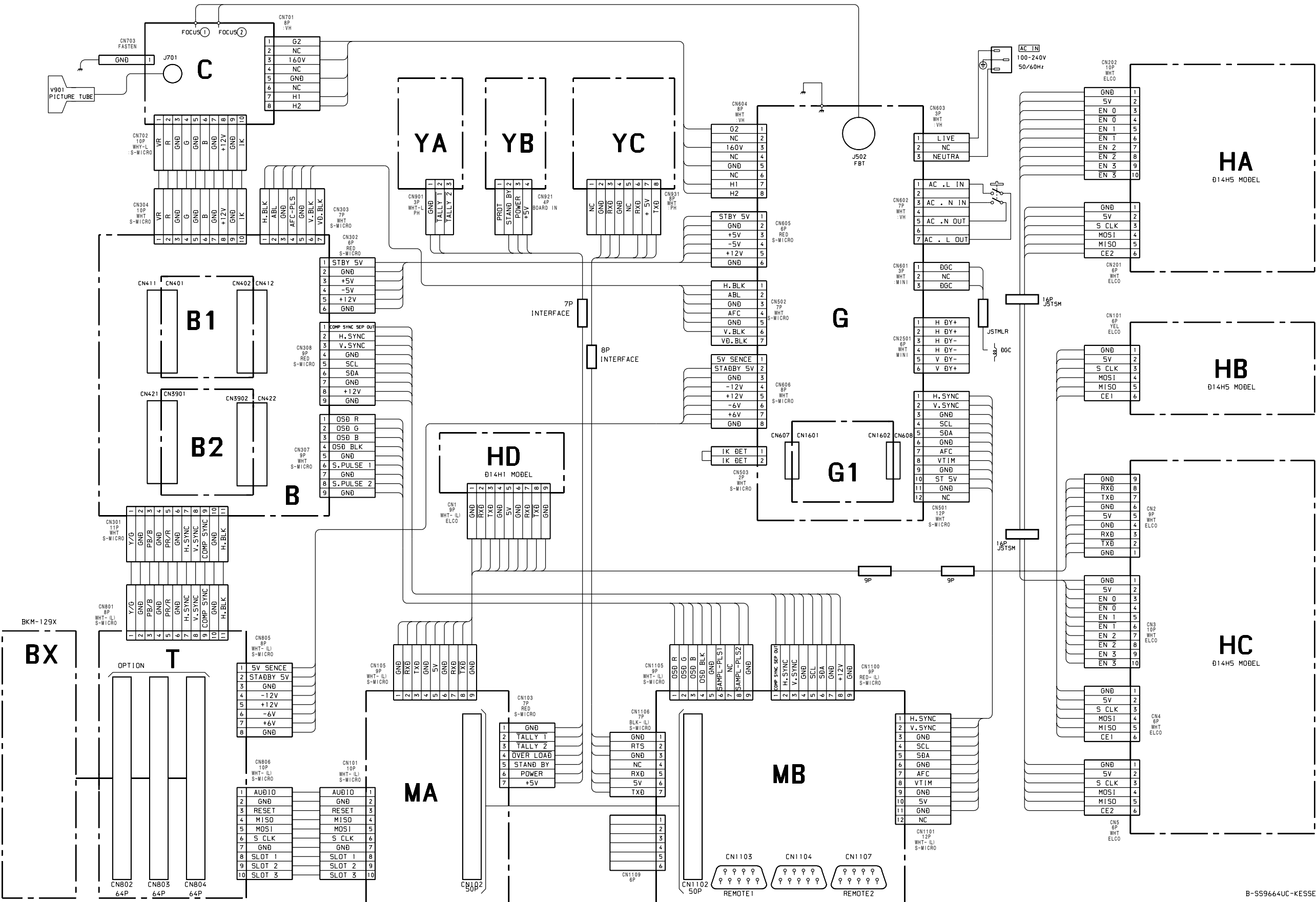
Les composants identifiés par la marque Δ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.



NOTE:

The circuit indicated as shown on the left contains high voltages of over 600 Vp-p. Take care to avoid electric shock during inspection or repair work.

11-1. Frame Schematic Diagrams



B-SS9664UC-KESSENZU-P1

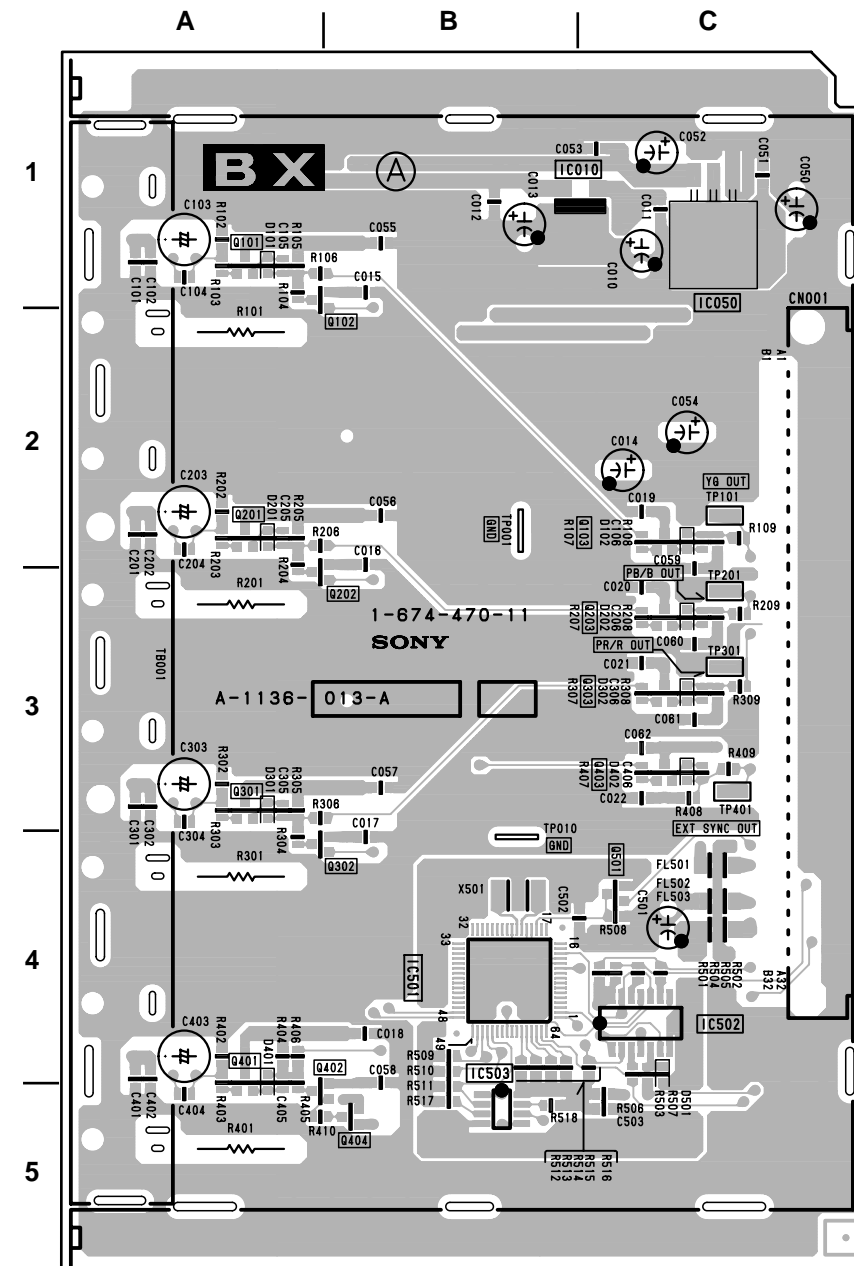
11-2. Schematic Diagrams and Printed Wiring Boards

BX BOARD

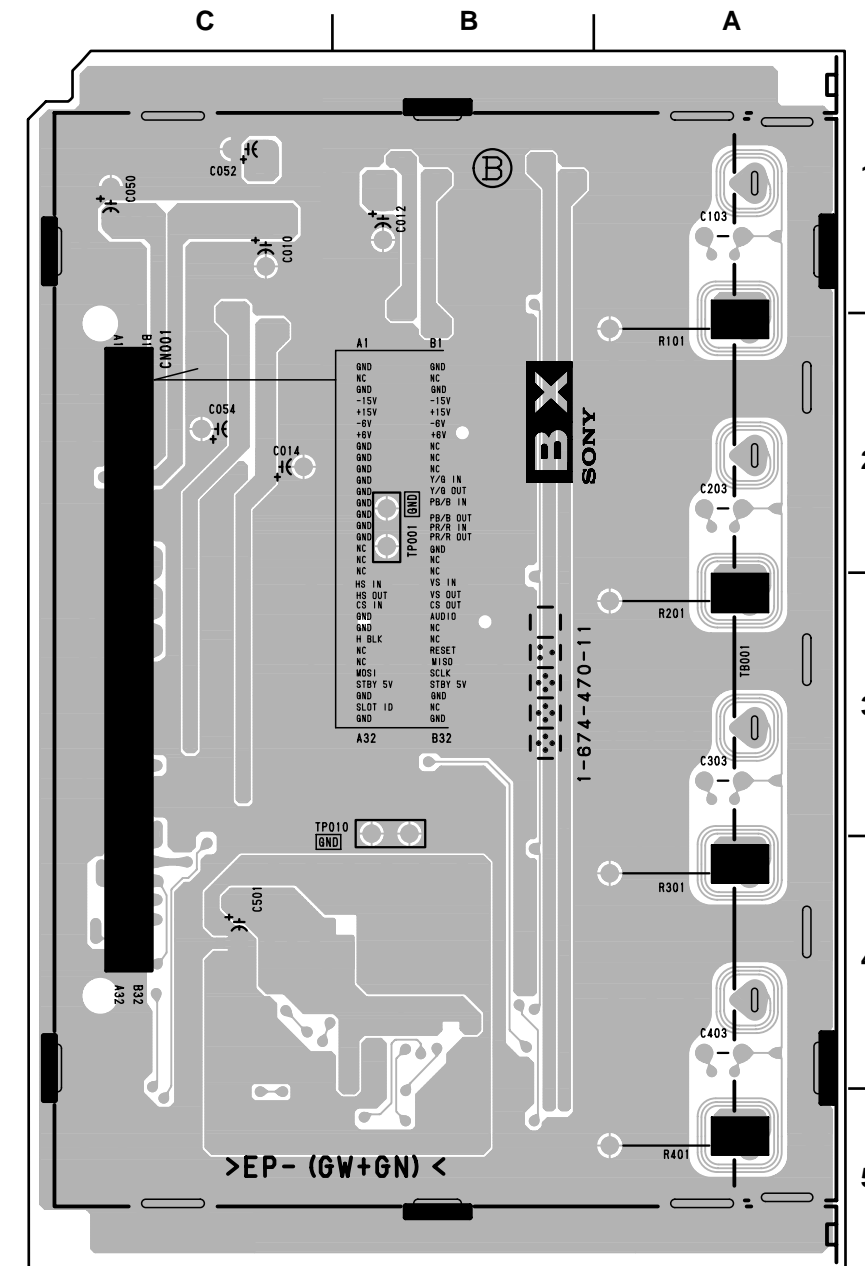
[BX BOARD]

* : B SIDE

D101	A-1
D102	C-2
D201	A-2
D202	C-3
D301	A-3
D302	C-3
D401	A-4
D402	C-3
D501	C-5
IC010	B-1
IC050	C-1
IC501	B-4
IC502	C-4
IC503	B-5
Q101	A-1
Q102	B-2
Q103	C-2
Q201	A-2
Q202	B-3
Q203	C-3
Q301	A-3
Q302	B-4
Q303	C-3
Q401	A-4
Q402	B-4
Q403	C-3
Q404	B-5
Q501	C-4
TP001	B-2
TP010	B-4
TP101	C-2
TP201	C-3
TP301	C-3
TP401	C-3

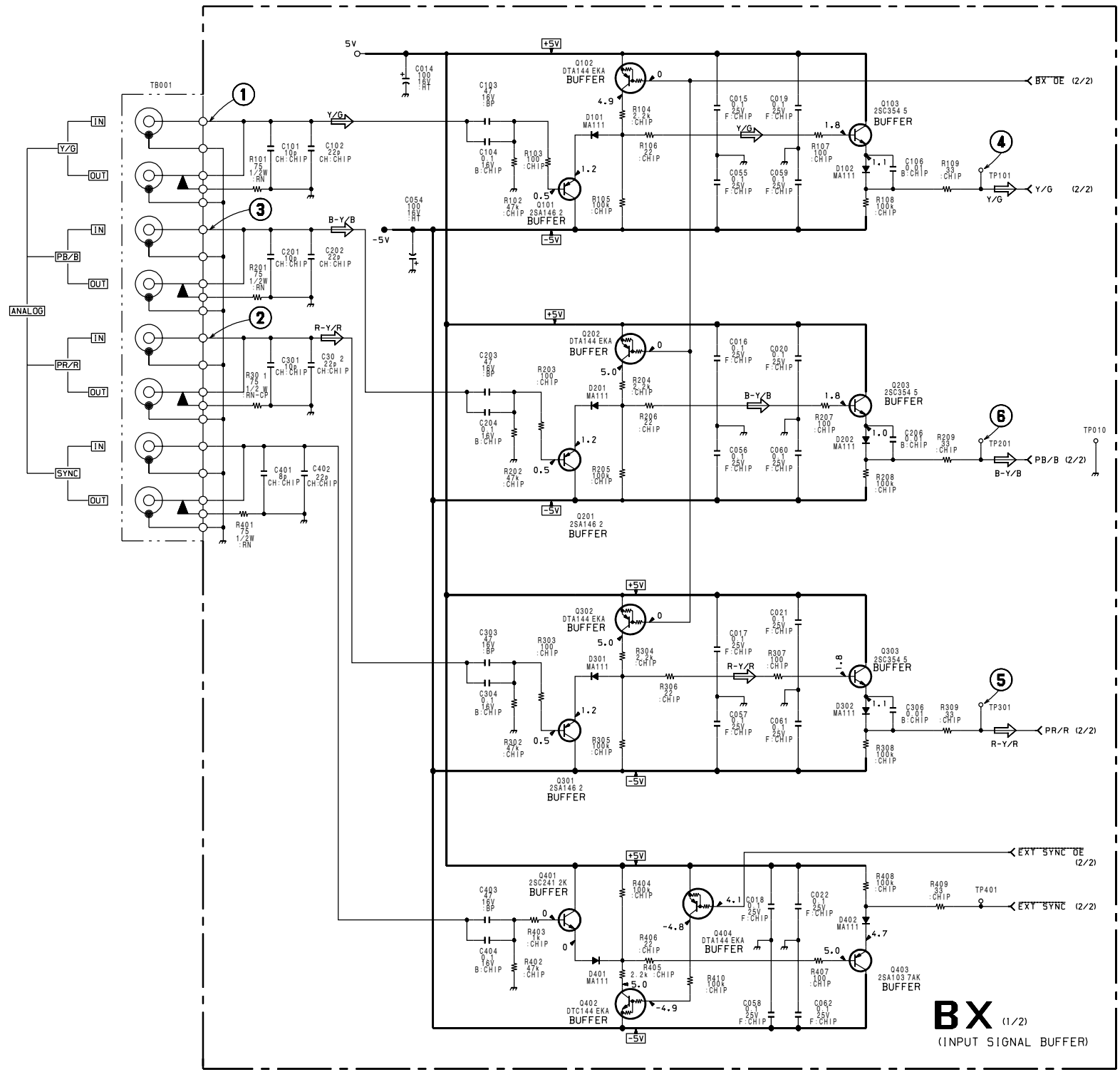
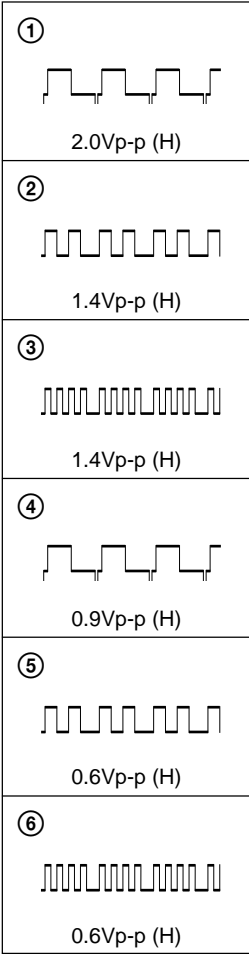


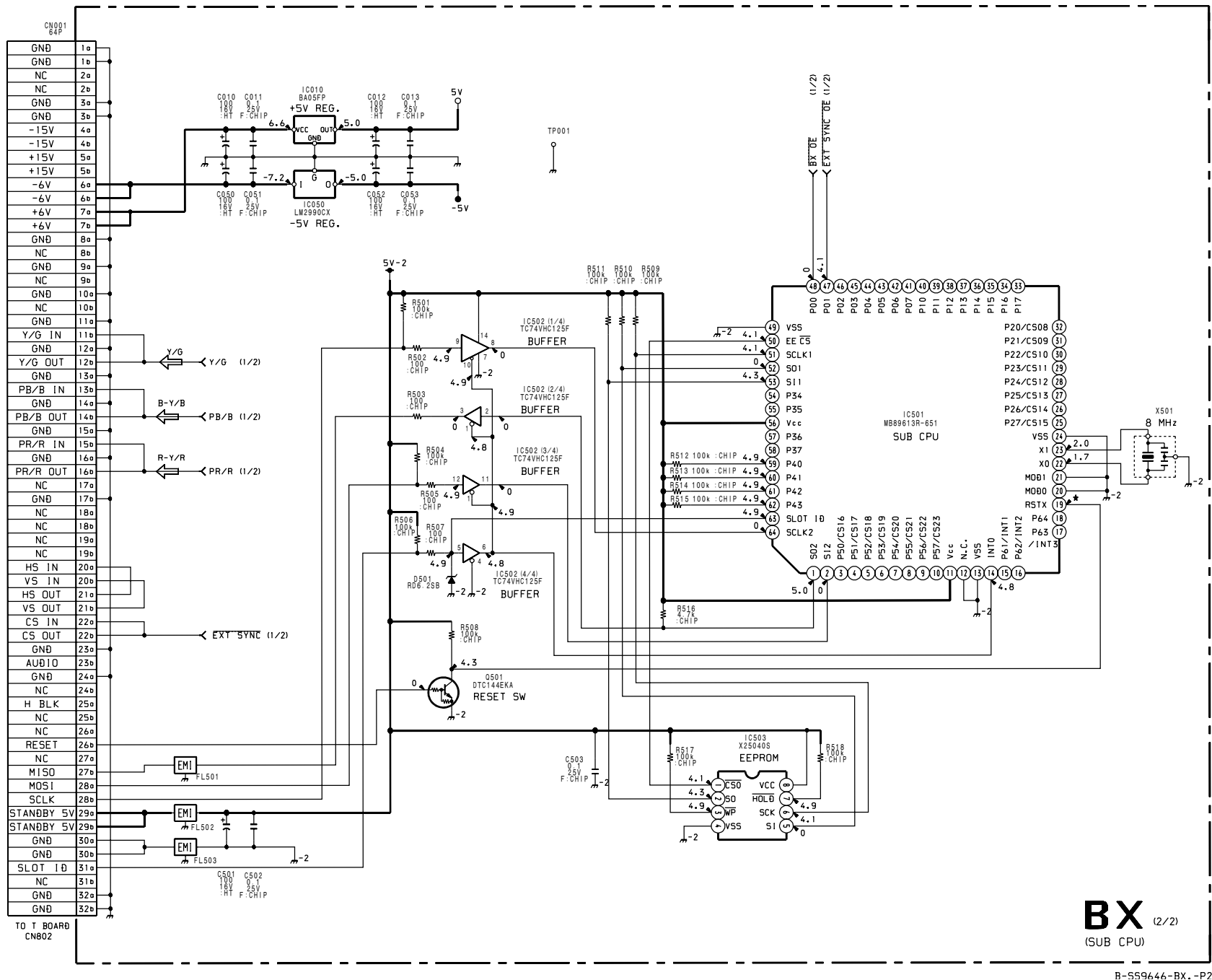
BX –A SIDE–
SUFFIX: -11



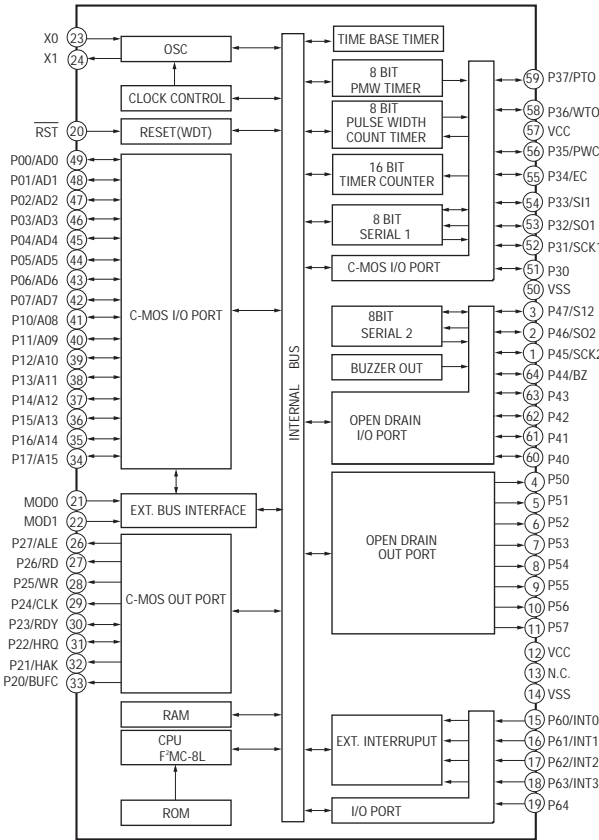
BX –B SIDE–
SUFFIX: -11

BX BOARD WAVEFORMS

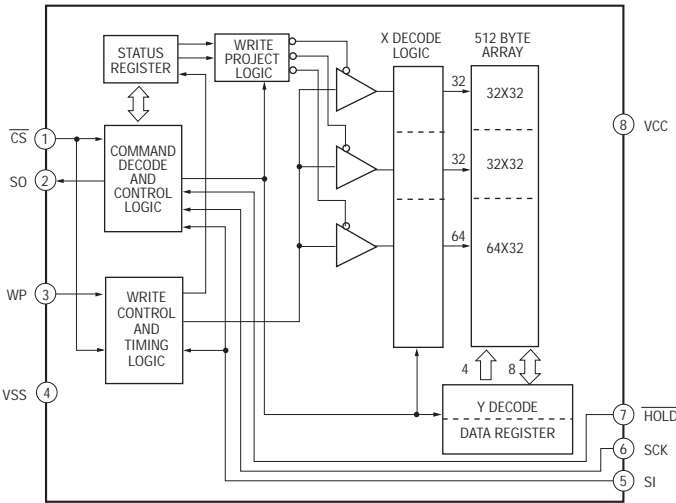




MB89613R-651 (IC501)



X25040S (IC503)



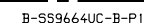
* : B SIDE

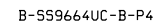
IC300	A-1	Q1410	* C-3
IC301	A-2	Q1411	C-3
IC302	A-2	Q1412	C-4
IC303	A-1	Q1413	C-3
IC304	A-2	Q1414	C-4
IC305	A-2	Q1420	* C-3
IC306	B-1	Q1421	C-3
IC307	B-1	Q1422	C-4
IC308	B-2	Q1423	C-3
IC400	B-2	Q1424	C-4
IC401	B-1	Q1430	* B-3
IC1300	C-2	Q1431	B-3
IC1302	C-2	Q1432	B-4
IC1303	C-1	Q1433	B-3
IC1304	D-2	Q1434	B-4
IC1305	C-2	Q1460	* D-3
IC1306	C-2	Q1461	D-4
IC1307	C-1	Q1462	C-3
IC1308	D-2	Q1463	* C-3
IC1309	D-1	Q2300	B-4
IC1400	C-2	Q2301	B-4
IC1401	* C-3	Q2302	B-4
IC2345	A-4	Q2303	B-4
IC2355	B-4	Q2315	C-4
IC2365	D-4	Q2316	C-4
IC2380	D-3	Q2317	C-4
IC2381	D-3	Q2318	B-4
IC2382	D-3	Q2330	D-4
IC2383	D-2	Q2331	C-4
IC3301	A-3	Q2332	C-4
IC3400	D-1	Q2333	C-4
IC3401	D-1	Q2345	* A-5
IC3403	D-1	Q2346	A-4
IC3404	D-4	Q2355	* C-5
IC3405	D-2	Q2356	C-5
IC3406	* B-3	Q2365	* D-5
IC3407	C-2	Q2366	D-5
IC4300	A-1	Q2375	* D-5
IC4301	C-1	Q2376	C-4
IC4302	B-3	Q2377	* B-5
IC4350	D-2	Q2380	D-3
IC4351	D-3	Q2381	D-3
IC4352	B-3	Q2382	D-3

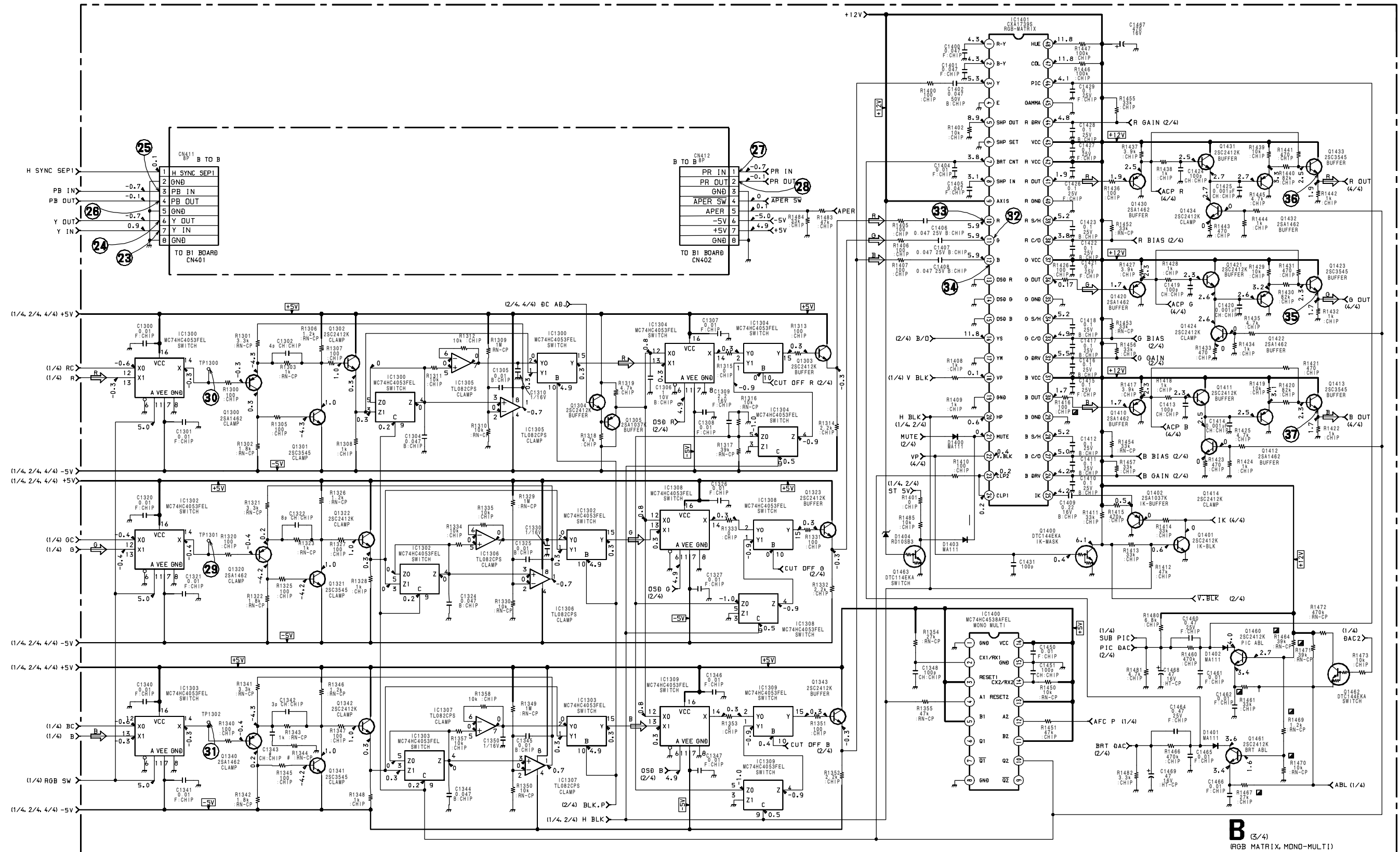
- * D-1
- D-1
- * C-2
- * C-2
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C-4
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A-3
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* A-3
D-1







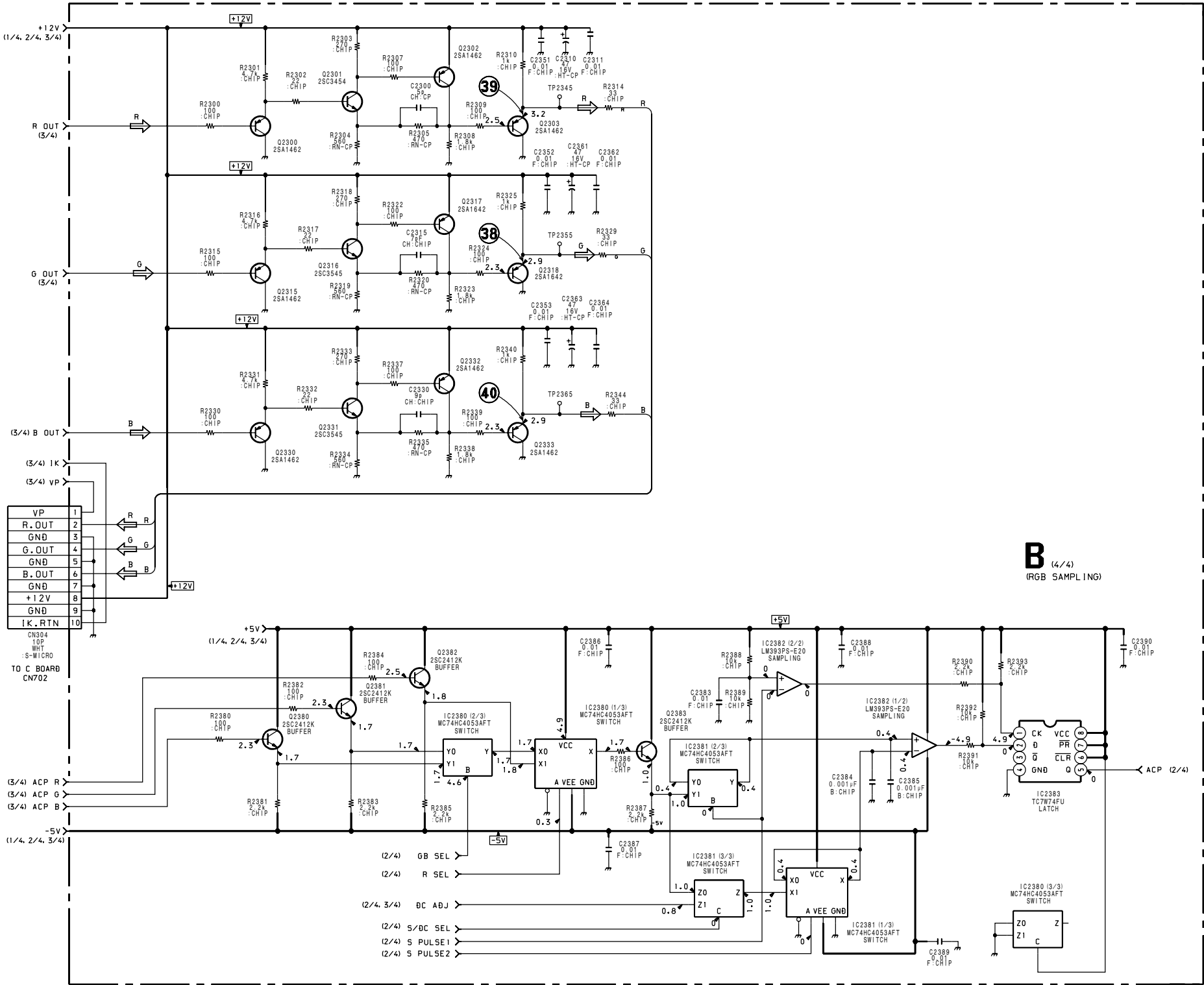
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2

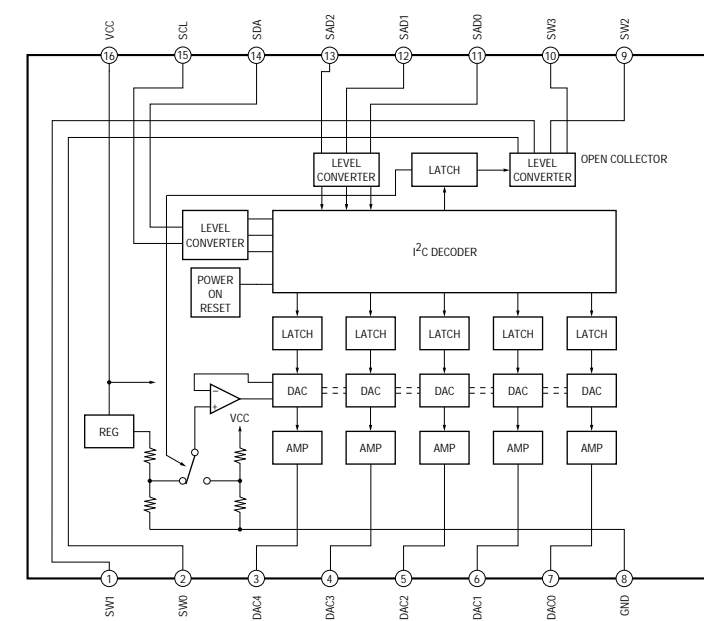
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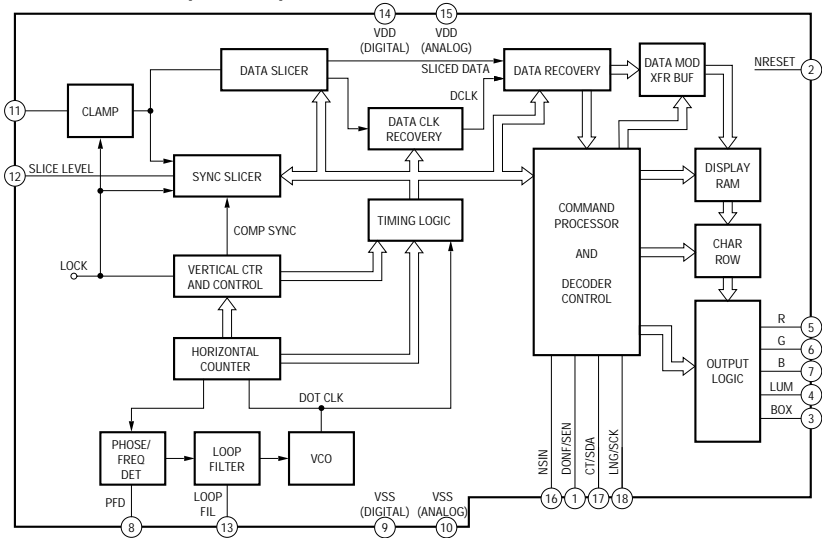
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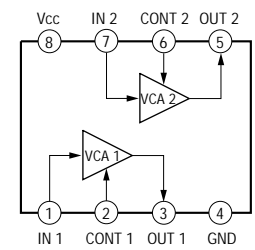
CXA1875AM (IC4300, 4301, 4302, 4350)



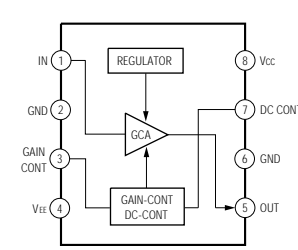
Z8622812PSC (IC3403)



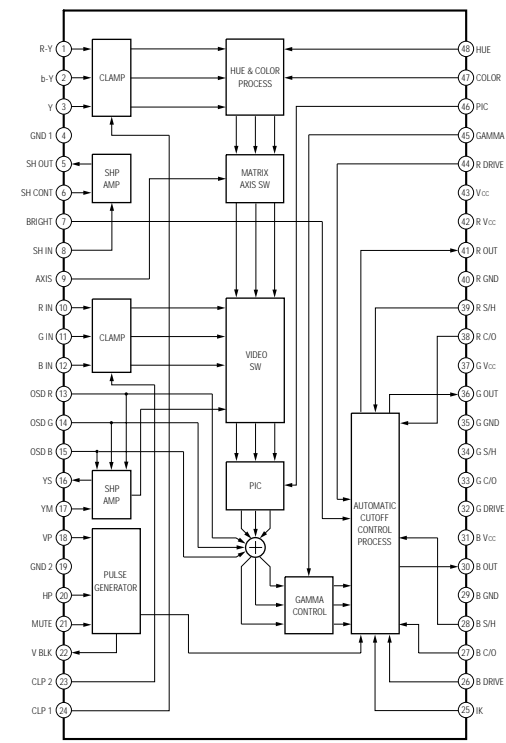
CXA1211M (IC400, 401)



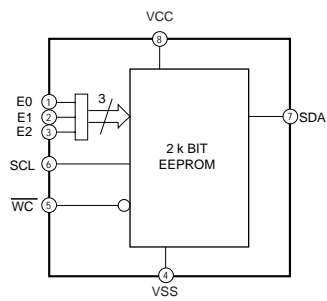
CXA1521M (IC306, 307, 308)



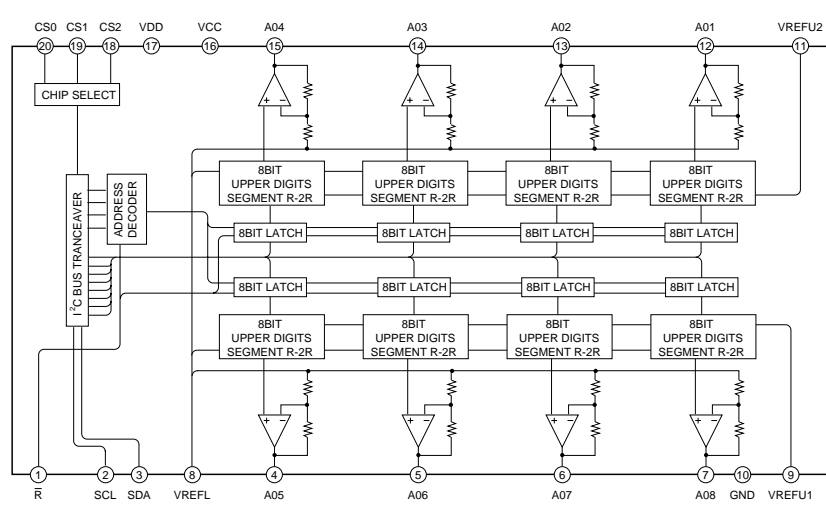
CXA1739S (IC1401)



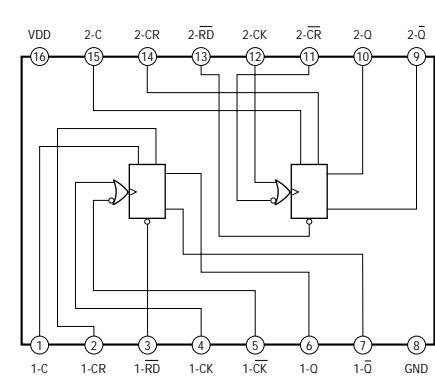
M24C02-MN6T (IC3404)



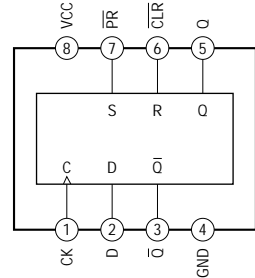
M62399FP-TE2 (IC4351, 4352)



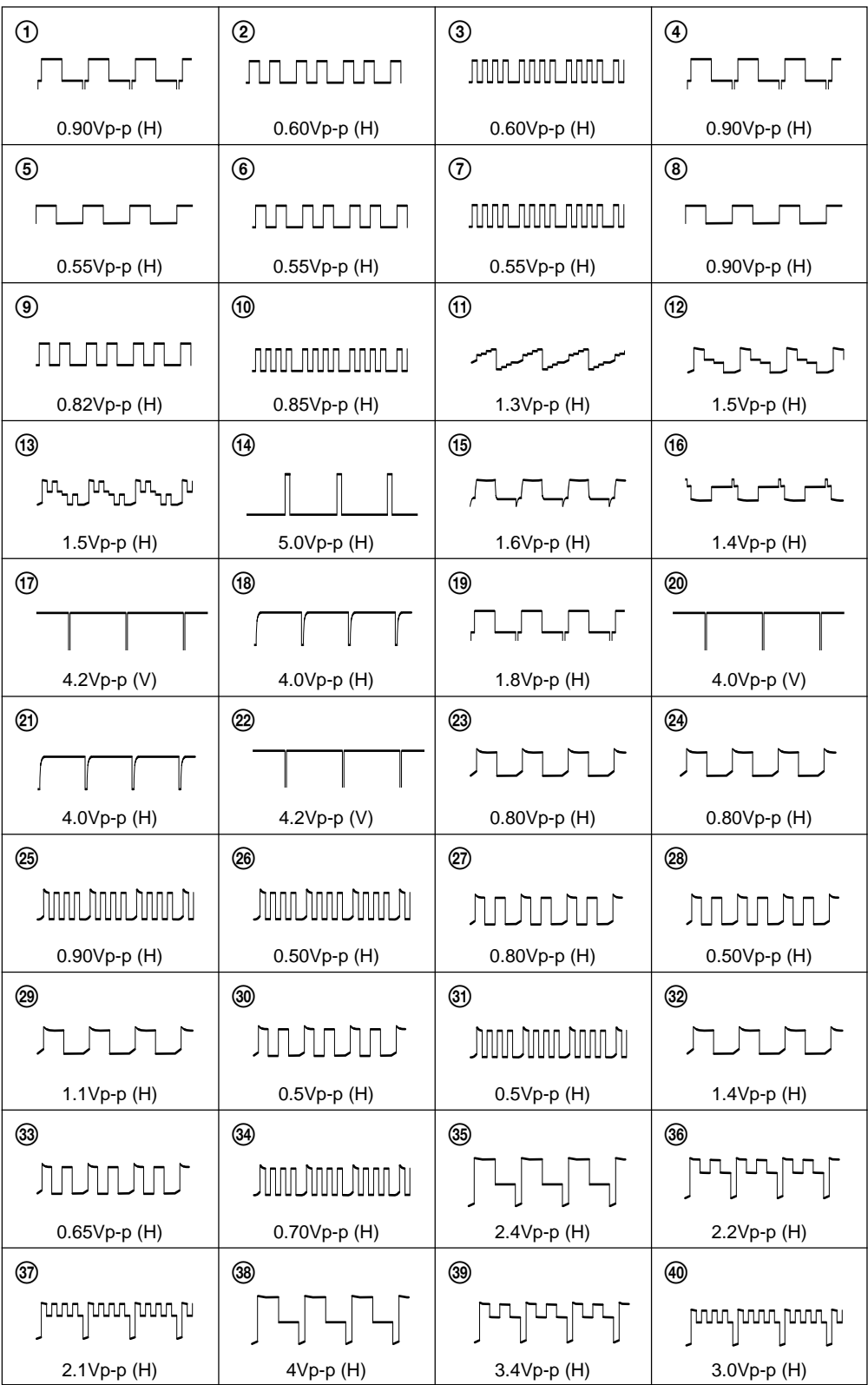
MC74HC4538AFEL (IC1400)



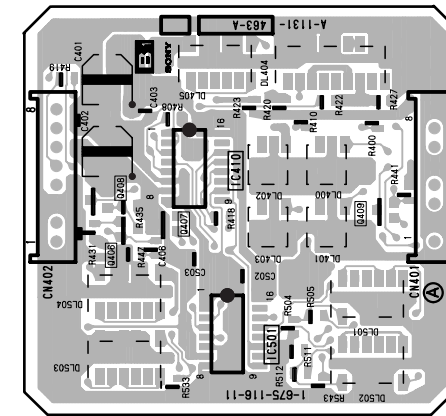
TC7W74FU (IC2383)



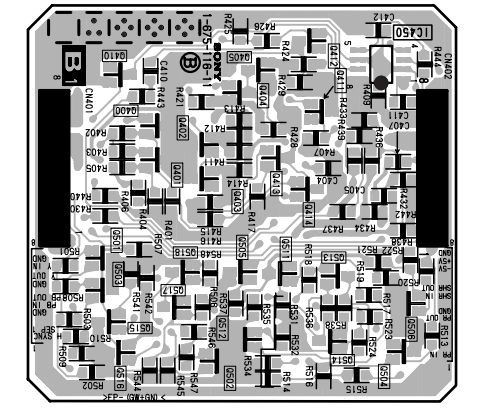
B BOARD WAVEFORMS



B1 BOARD

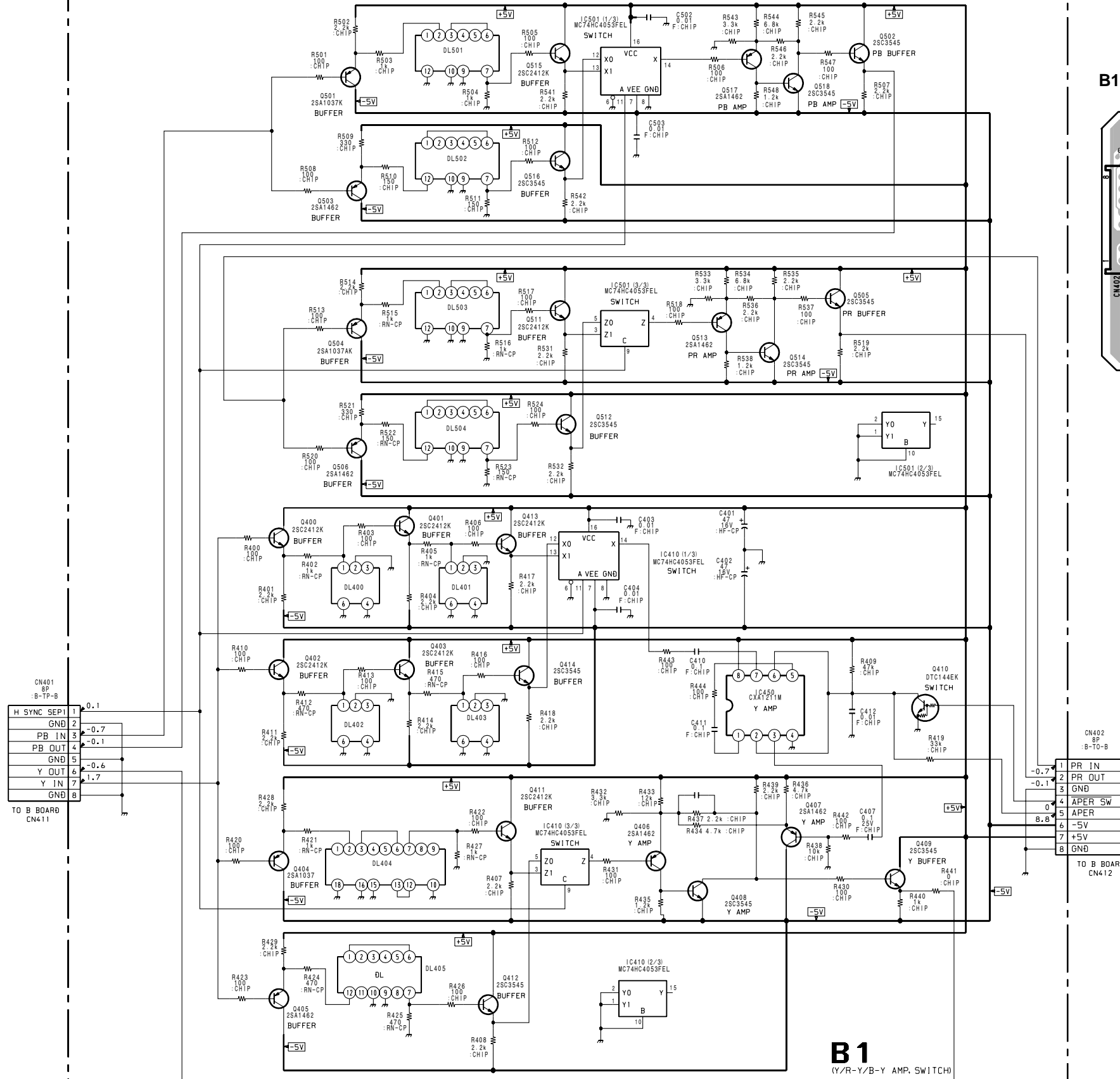
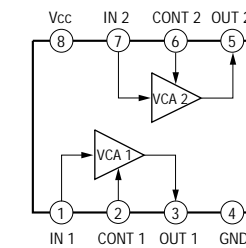


B1 -A SIDE-
SUFFIX: -11

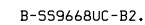


B1 -B SIDE-
SUFFIX: -11

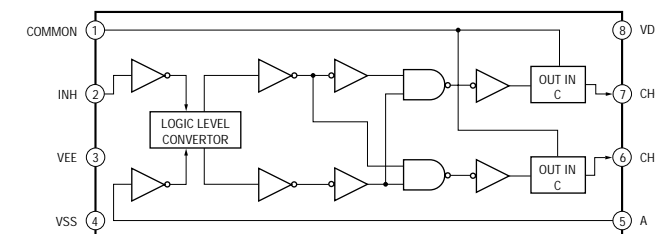
CXA1211M (IC450)



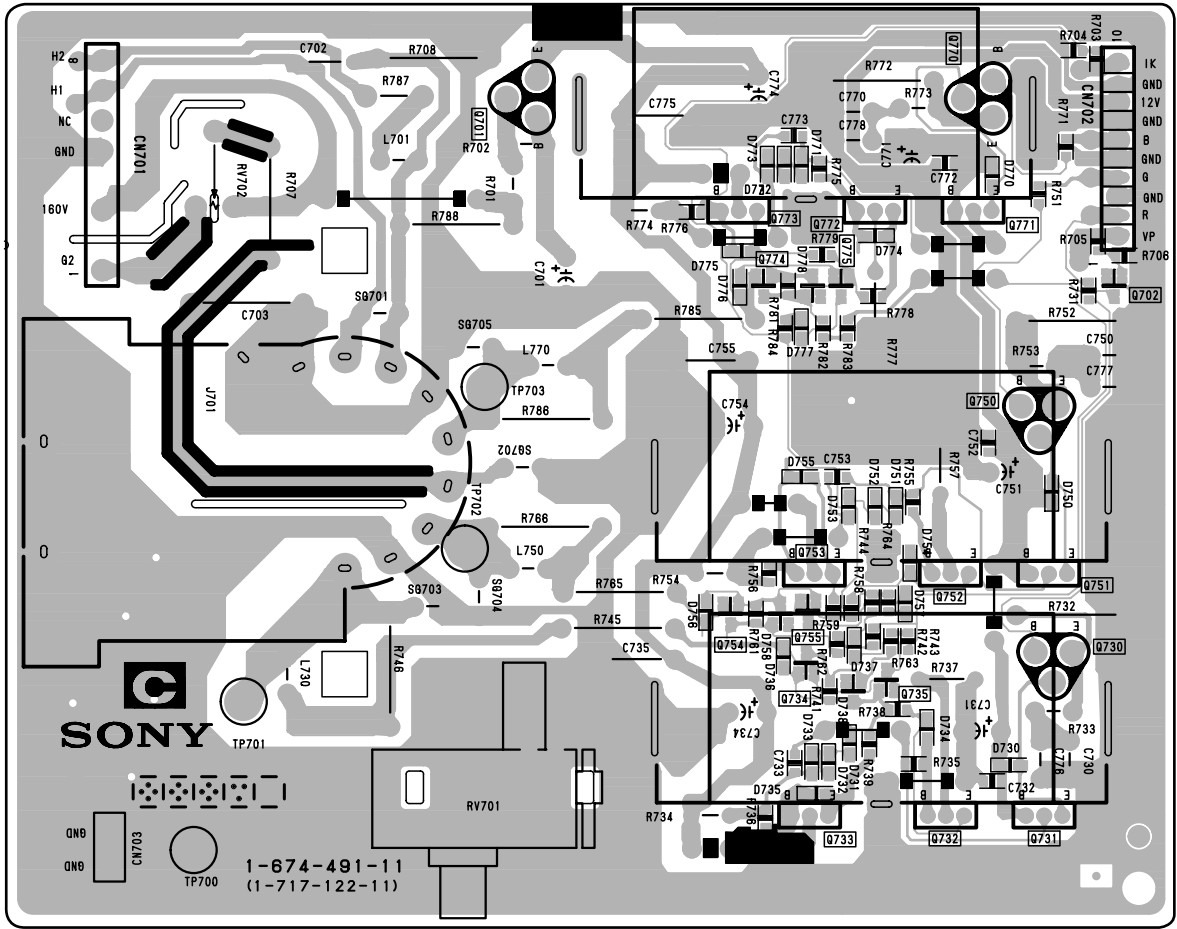
B-S59668UC-B1.

[illegible]

TC4W53FU (IC3908)

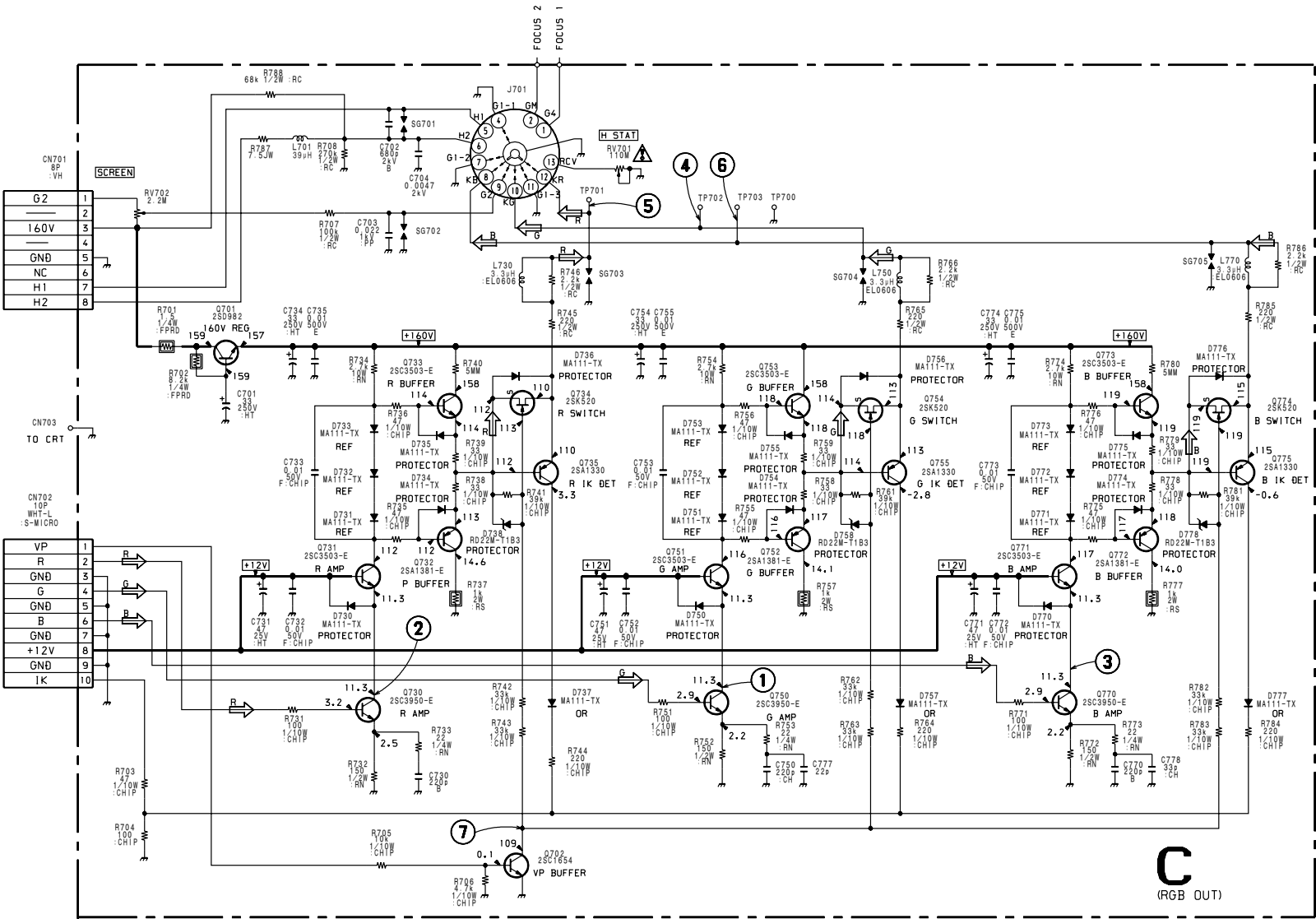


C BOARD



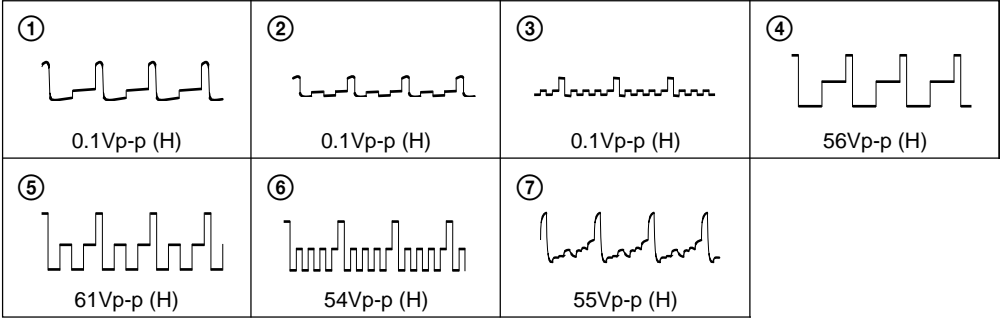
C -B SIDE-
SUFFIX: -11

C C



B-S59664UC-C..

C BOARD WAVEFORMS

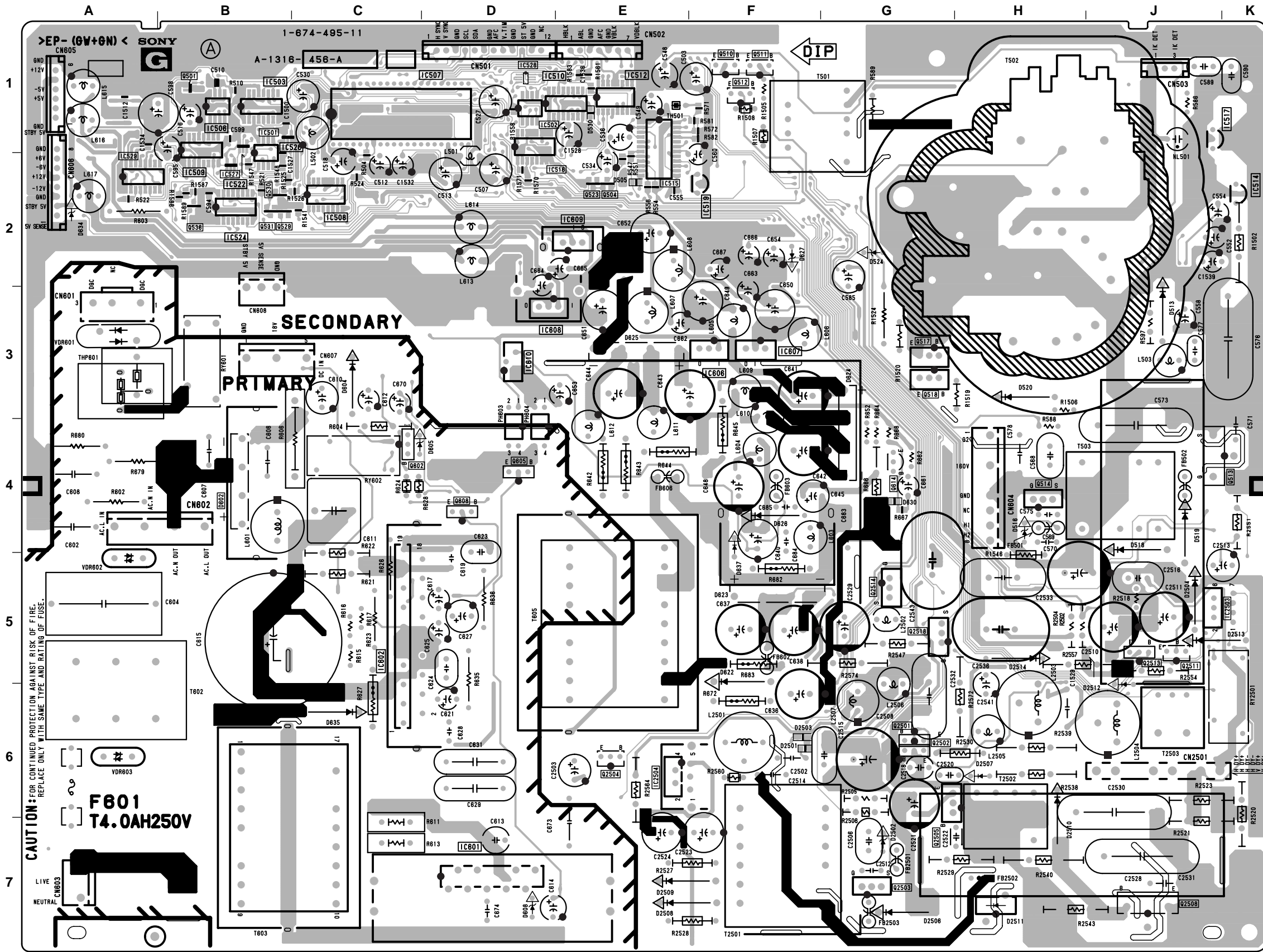


G BOARD

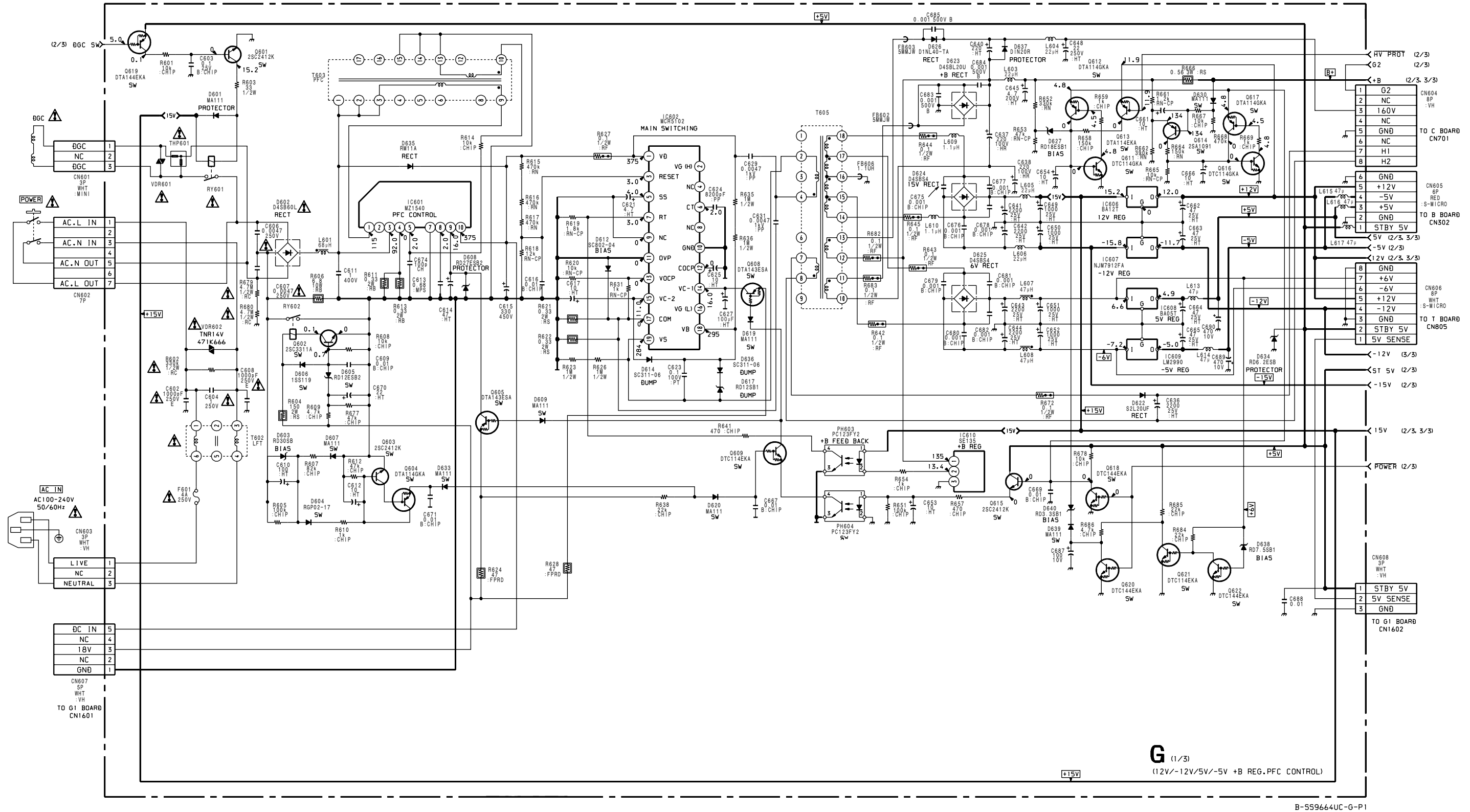
[G BOARD]

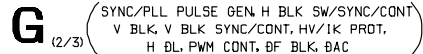
* : B-SIDE

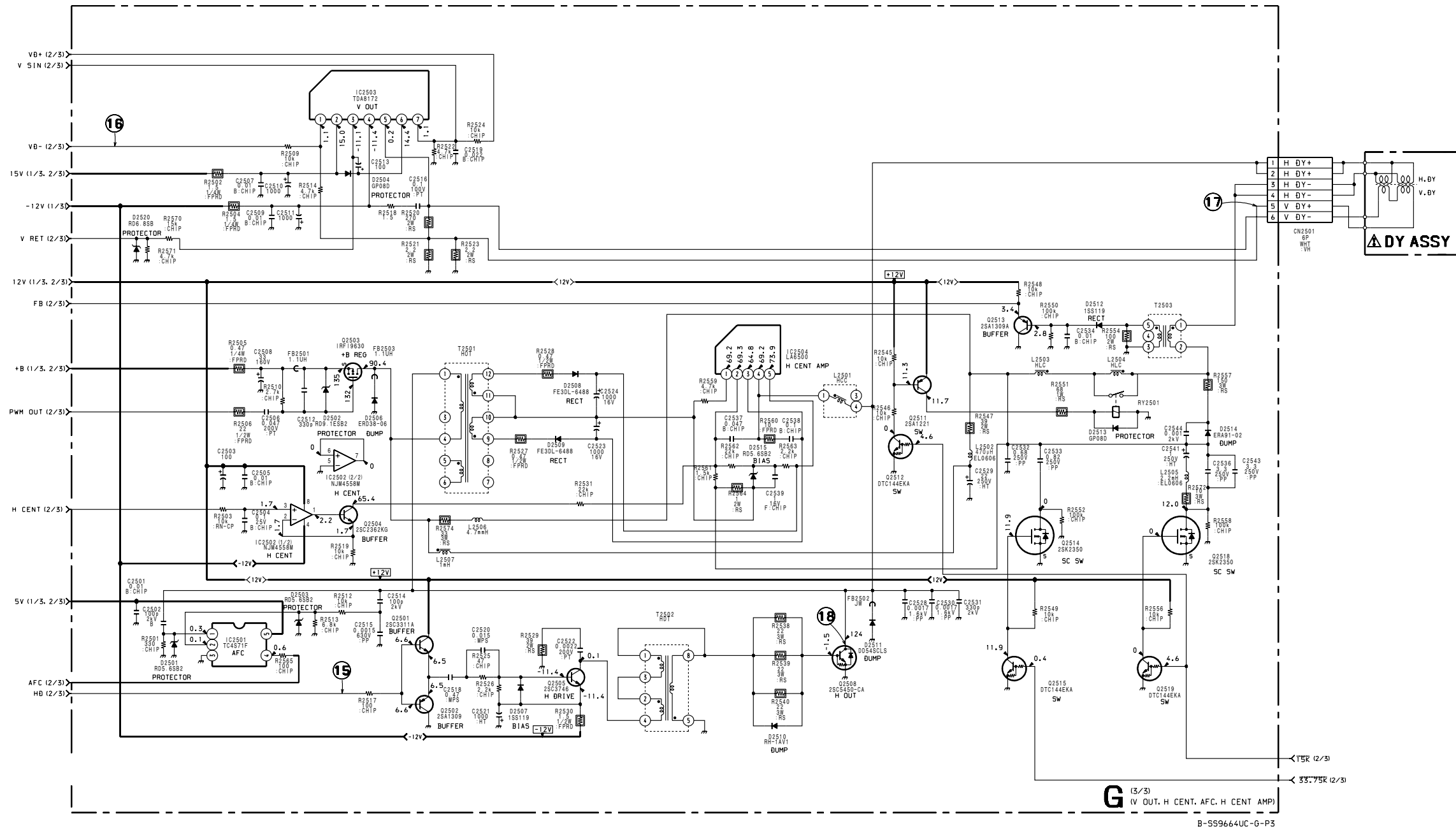
D2501	F-6	IC506	B-1
D2502	G-7	IC507	C-1
D2503	F-6	IC508	C-2
D2504	J-5	IC509	B-2
D2506	G-7	IC510	E-1
D2507	H-6	IC512	E-1
D2508	E-7	IC514	K-2
D2509	E-7	IC515	E-1
D2510	H-7	IC516	D-1
D2511	H-7	IC517	K-1
D2512	J-6	IC519	F-2
D2513	K-5	IC520	* G-2
D2514	H-5	IC522	B-1
D2515	* E-6	IC523	* J-2
D2520	* J-5	IC524	B-2
D501	* E-2	IC526	B-1
D502	* E-2	IC527	B-2
D503	* E-2	IC528	D-1
D504	* E-2	IC529	A-2
D505	E-2	IC601	D-7
D506	* J-3	IC602	C-5
D507	* J-2	IC606	F-3
D508	* J-2	IC607	F-3
D509	* J-2	IC608	D-3
D510	* J-2	IC609	E-2
D511	* J-2	IC610	D-3
D512	* J-2	IC610	D-3
D513	J-3		
D514	* K-4	Q2501	G-6
D515	* F-1	Q2502	G-6
D516	H-4	Q2503	G-7
D517	* F-2	Q2504	E-6
D518	J-4	Q2505	G-6
D519	J-4	Q2508	J-7
D520	H-3	Q2511	J-5
D524	G-2	Q2513	J-5
D525	* G-3	Q2514	G-5
D529	* C-1	Q2515	* G-5
D530	E-1	Q2518	* G-5
D531	* C-2	Q2519	* G-5
D532	* C-2	Q501	B-1
D533	* B-2	Q504	E-2
D534	* D-1	Q505	* F-1
D535	* F-2	Q506	* J-4
D536	* C-1	Q507	* K-4
D537	* F-2	Q508	* F-1
D538	* C-1	Q509	* F-1
D539	* C-2	Q510	F-1
D540	* B-1	Q511	F-1
D601	* B-3	Q512	K-4
D602	B-4	Q513	H-4
D603	* C-3	Q514	G-3
D604	C-3	Q517	G-3
D605	* C-4	Q518	G-3
D607	* C-4	Q520	* C-1
D608	D-7	Q521	* D-2
D609	* D-4	Q523	E-2
D612	* C-4	Q524	* C-1
D614	* D-5	Q525	* D-1
D617	* D-5	Q529	B-2
D619	* D-4	Q530	B-2
D620	* D-4	Q531	B-2
D622	* F-5	Q532	* E-1
D623	F-5	Q533	* F-2
D624	G-4	Q534	* E-1
D625	D-3	Q535	* C-1
D626	F-4	Q536	B-2
D627	F-2	Q601	* A-2
D633	* C-3	Q602	C-4
D634	A-2	Q603	* C-3
D635	C-6	Q604	* C-3
D636	* D-5	Q605	D-4
D637	F-4	Q608	D-4
D638	* E-2	Q609	* D-4
D639	* F-2	Q611	* F-2
D640	* F-2	Q612	* F-2
		Q613	* F-2
		Q614	G-4
IC2501	* F-6	Q615	* D-3
IC2502	* E-6	Q616	* F-2
IC2503	K-5	Q617	* F-2
IC2504	E-6	Q618	* D-2
IC501	B-1	Q619	* A-2
IC502	D-1	Q620	* F-2
IC503	B-1	Q621	* F-2
		Q622	* E-2



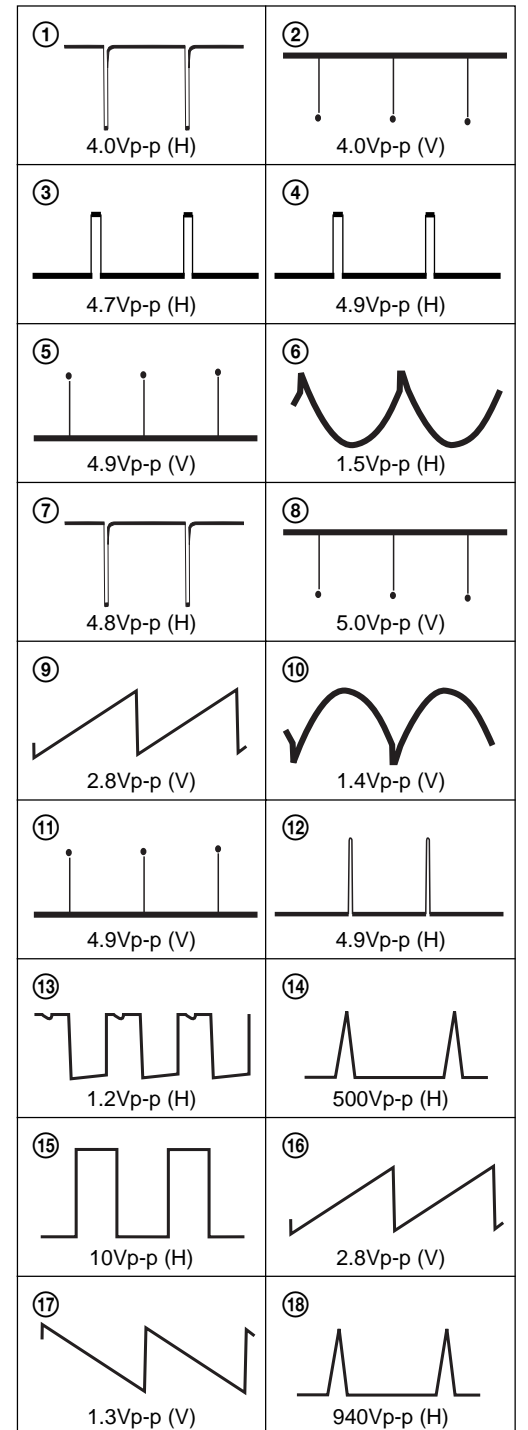
G -A SIDE-
SUFFIX: -11



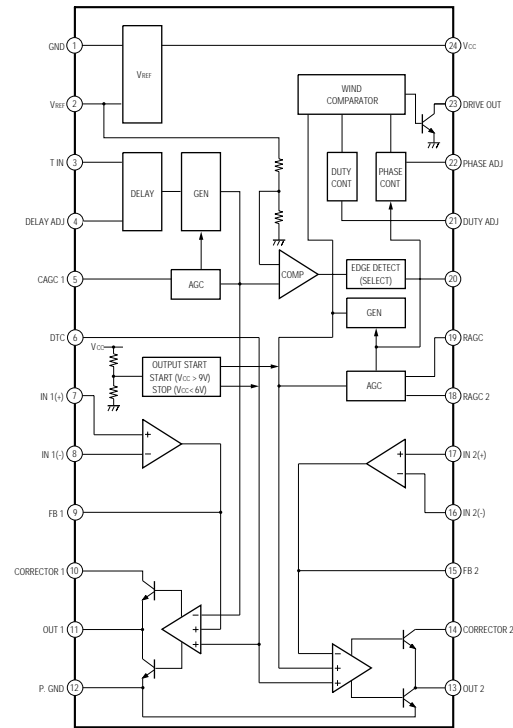




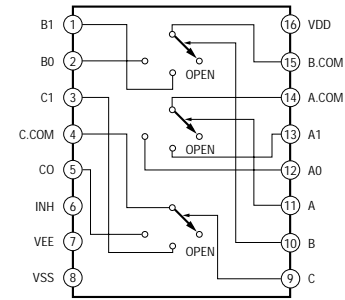
G BOARD WAVEFORMS



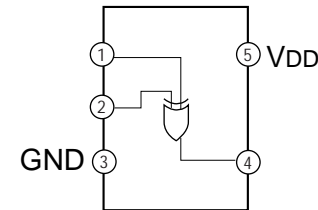
CXA1544M (IC515)



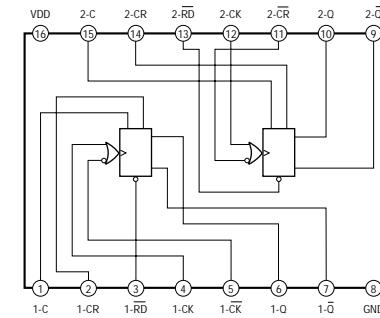
MC14053BF (IC516)



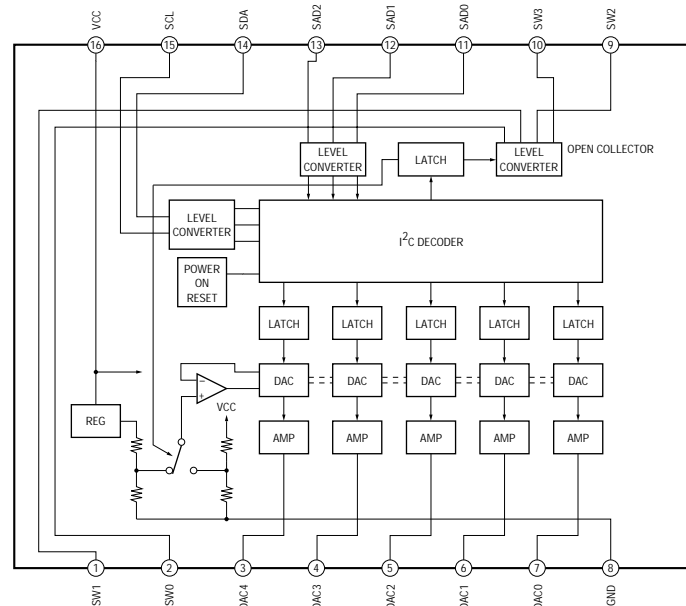
TC4S30F (IC522, 526)



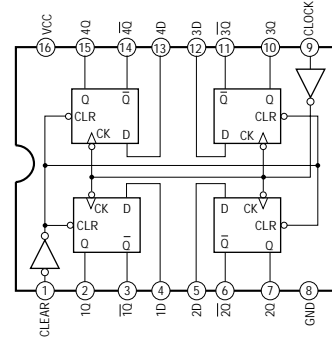
TC74HC4538/4538AF
(IC503, 509, 510, 529)



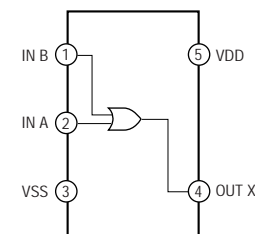
CXA1875AM (IC508, 512)



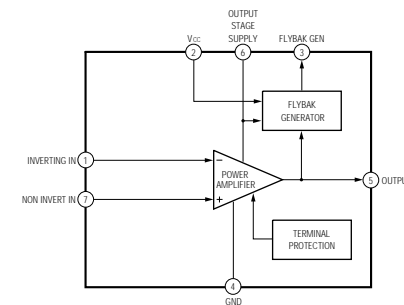
MC74HC175FEL (IC524)



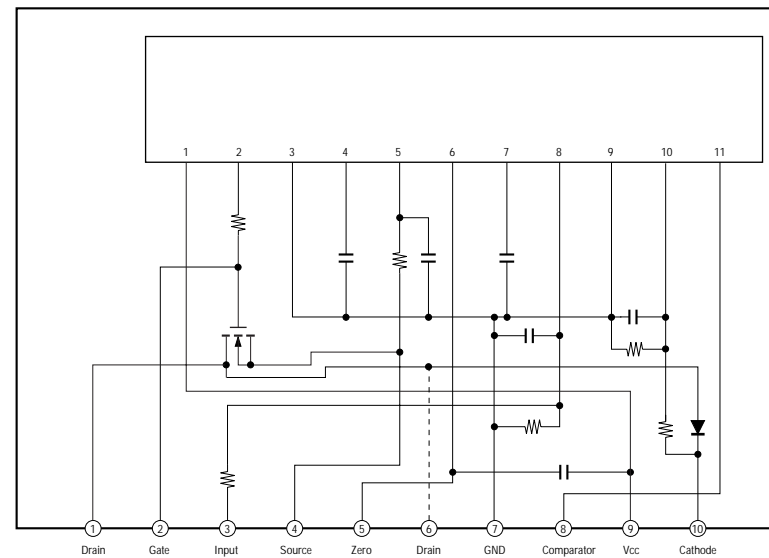
TC4S71F (IC2501)



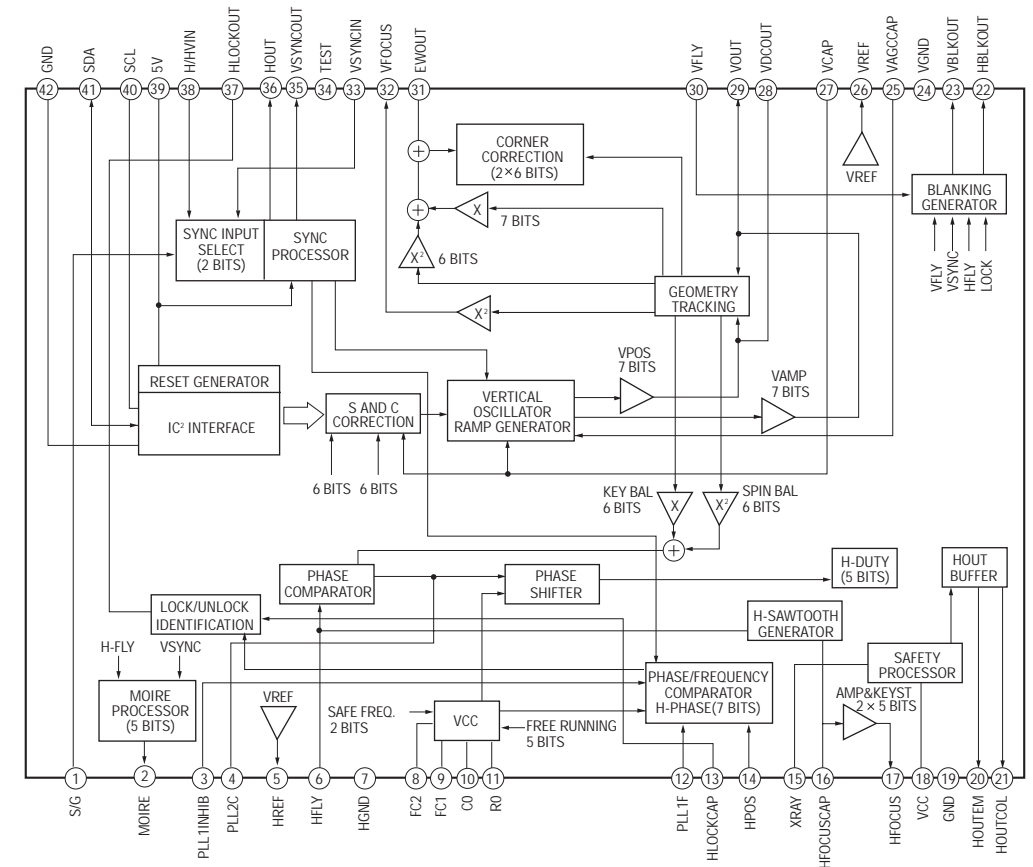
TDA8172 (IC2503)



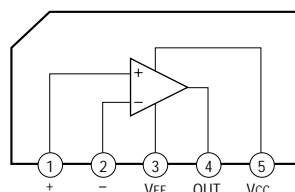
MZ1540 (IC601)



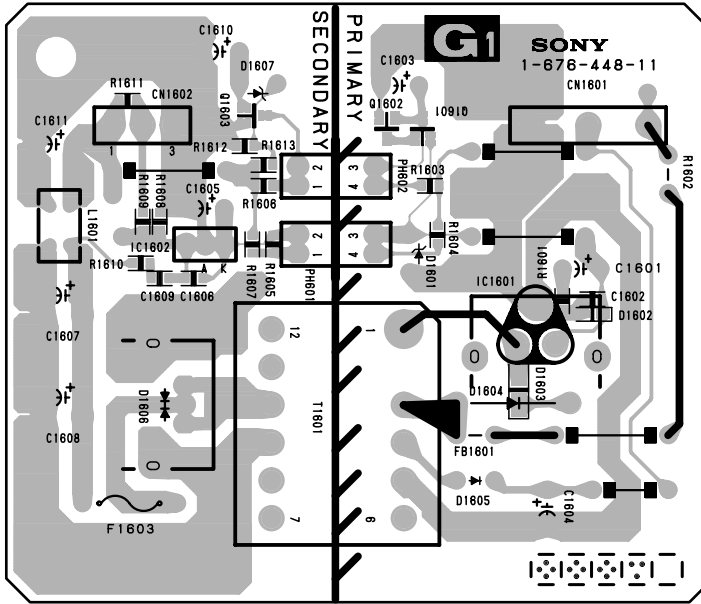
TDA9106 (IC507)



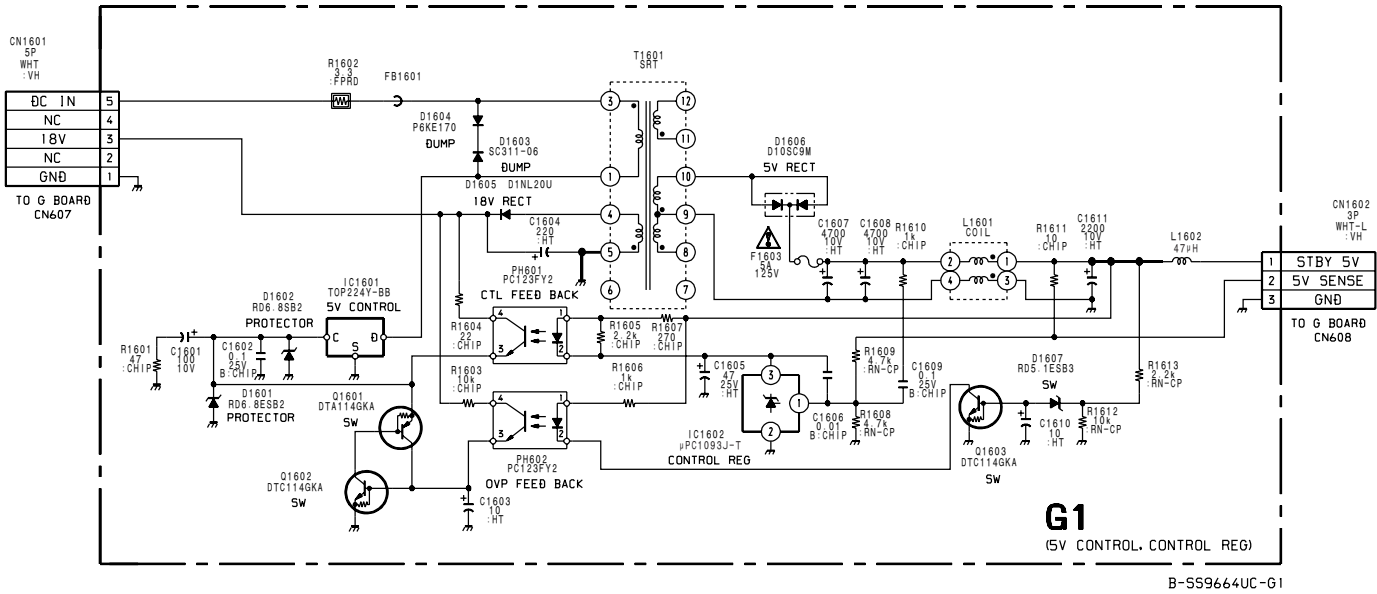
LA6500 (IC2504)



G1 BOARD

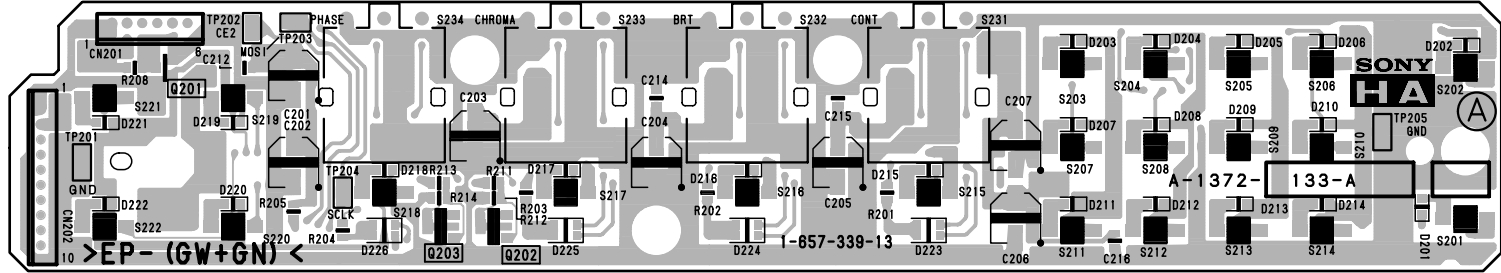


G1 -B SIDE-
SUFFIX: -11

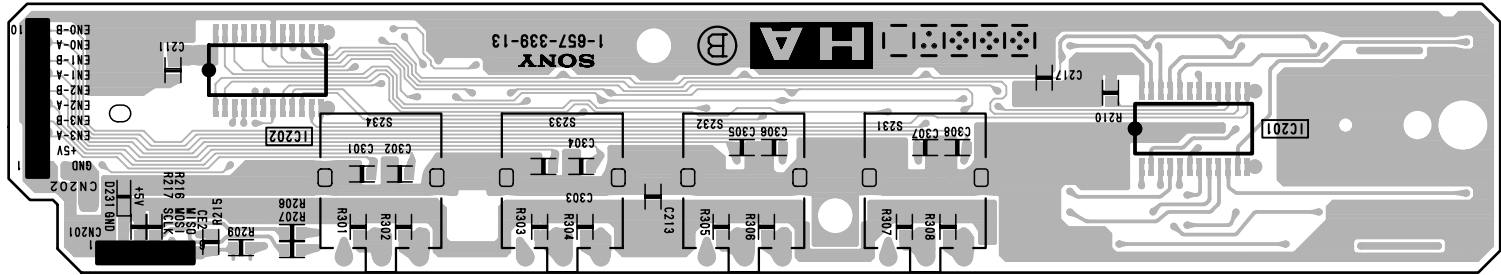


HA HA

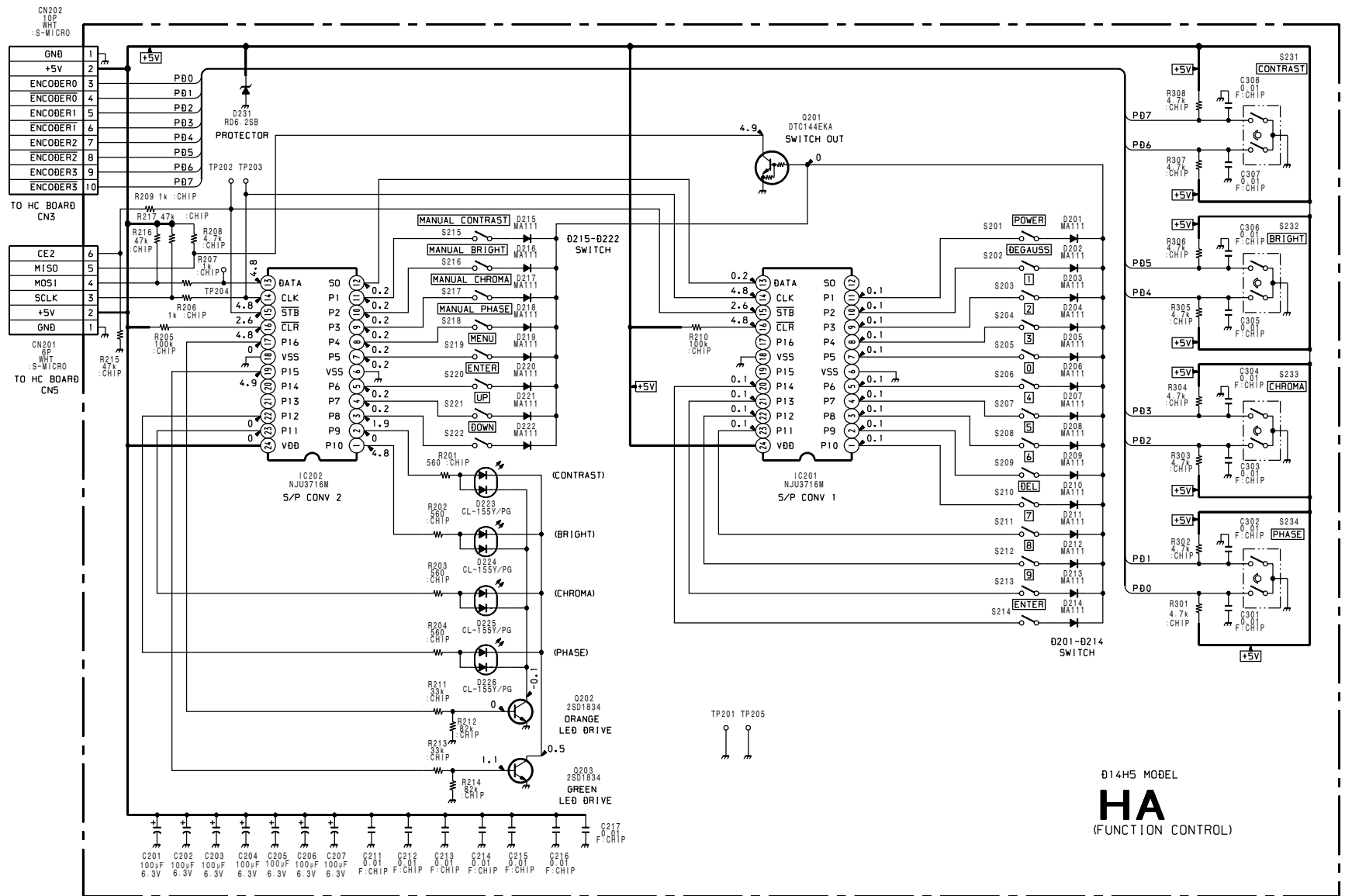
HA BOARD



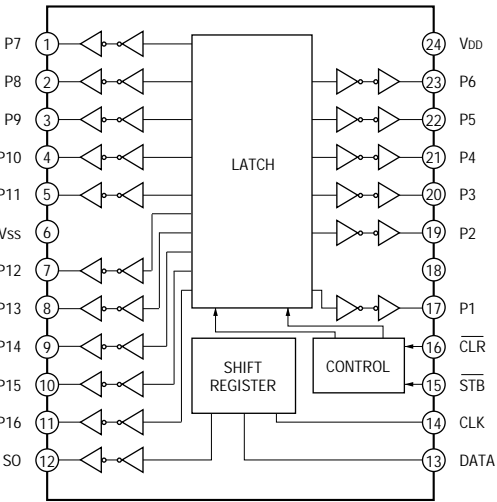
HA –A SIDE–
SUFFIX: -13



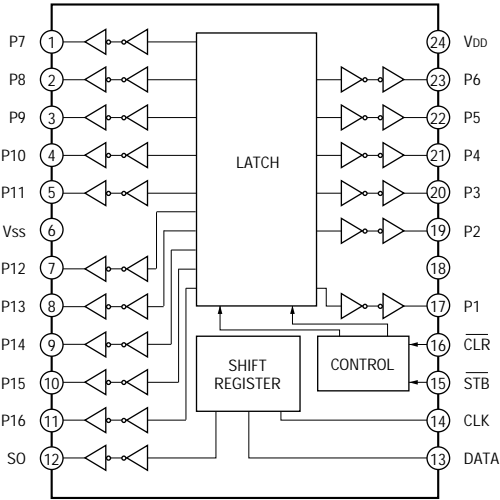
HA -B SIDE-
SUFFIX: -13



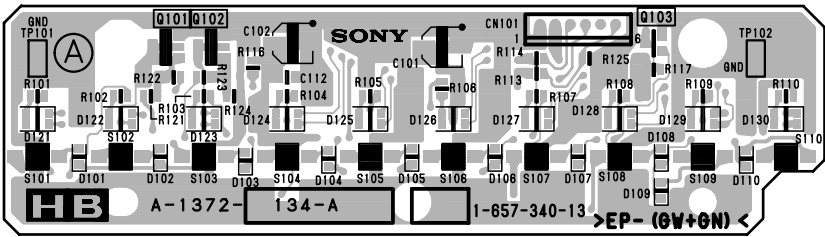
NJU3716M (IC201, 202)



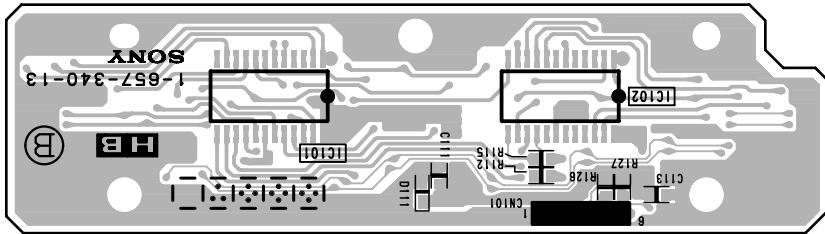
NJU3716M (IC101, 102)



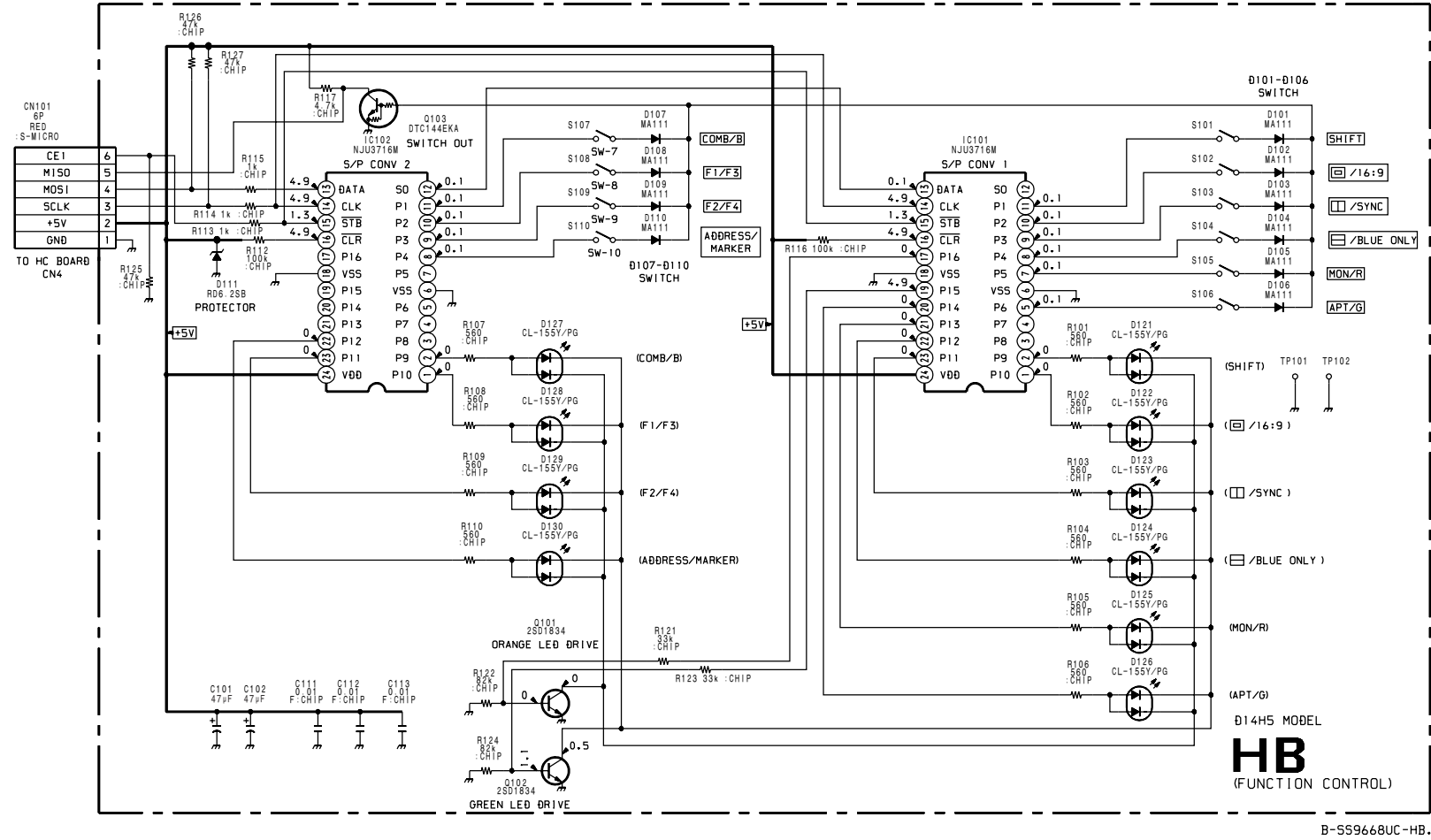
HB BOARD



HB -A SIDE-
SUFFIX: -13



HB -B SIDE-
SUFFIX: -13

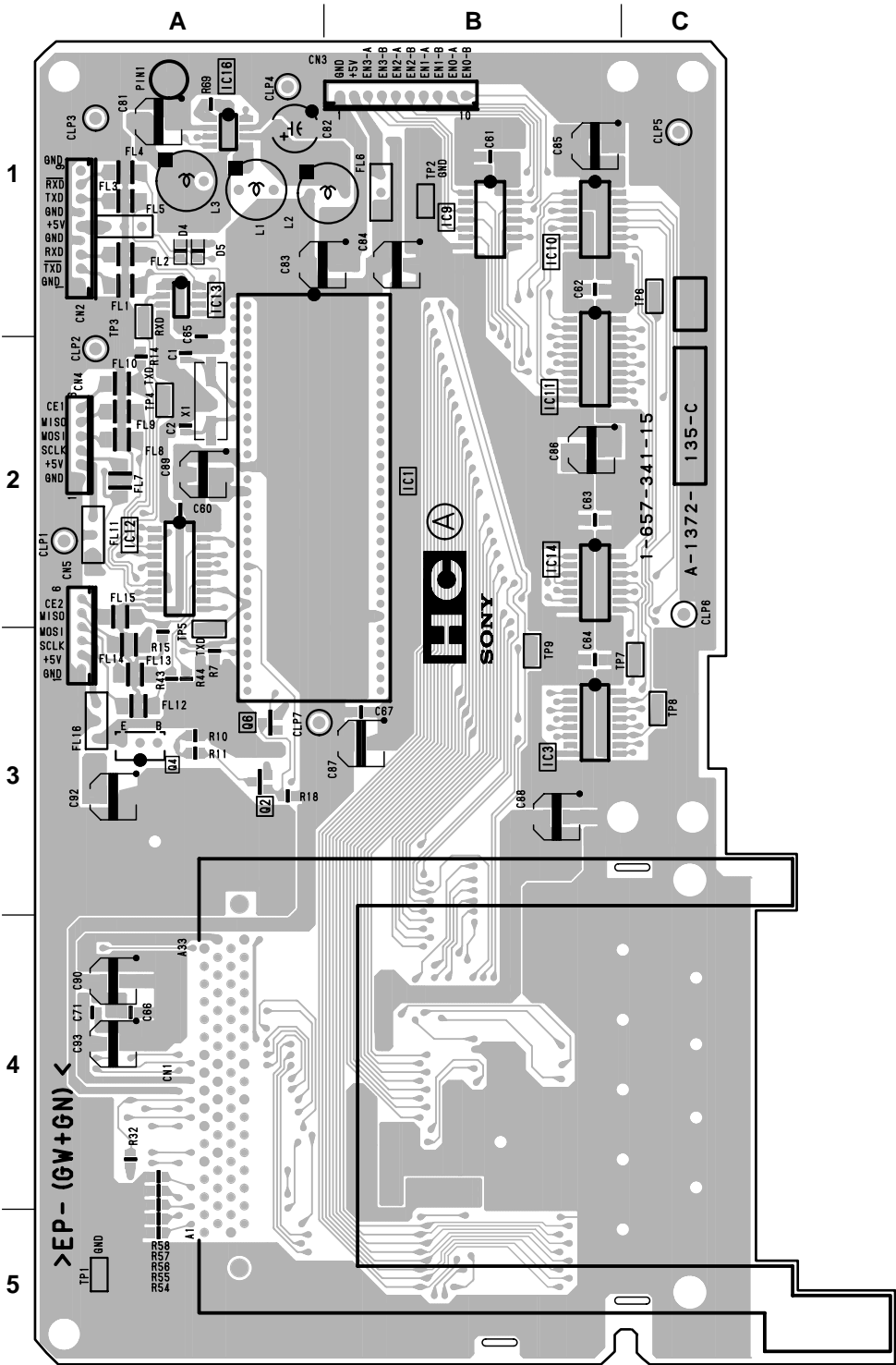


HC BOARD

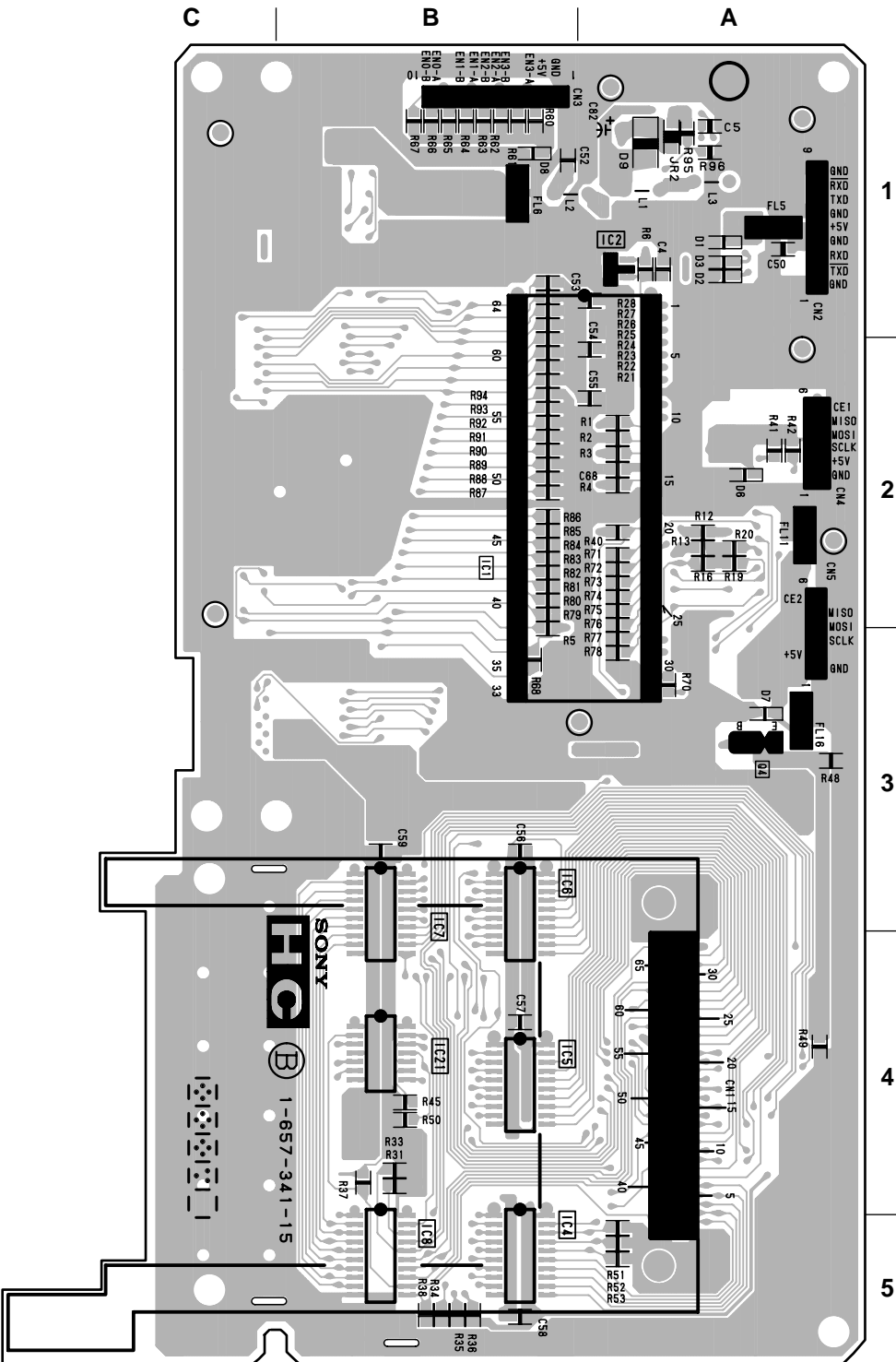
[HC BOARD]

* : B SIDE

D1	* A-1
D2	* A-1
D3	* A-1
D4	A-1
D5	A-1
D6	* A-2
D7	* A-3
D8	* A-2
D9	A-1
IC1	B-2
IC2	A-1
IC3	B-3
IC4	* B-5
IC5	* B-4
IC6	* B-3
IC7	* B-3
IC8	* B-5
IC9	B-1
IC10	B-1
IC11	B-2
IC13	A-1
IC14	B-2
IC21	* B-4
Q4	A-3
TP2	A-1
TP3	A-1
TP4	A-2
TP6	C-1
TP7	C-3
TP8	C-3
TP9	B-3

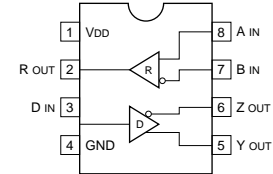


HC -A SIDE-
SUFFIX: -15

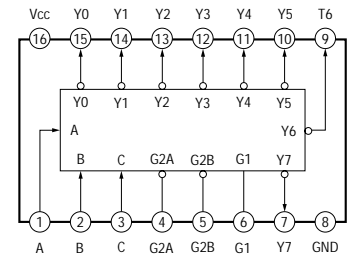


HC -B SIDE-
SUFFIX: -15

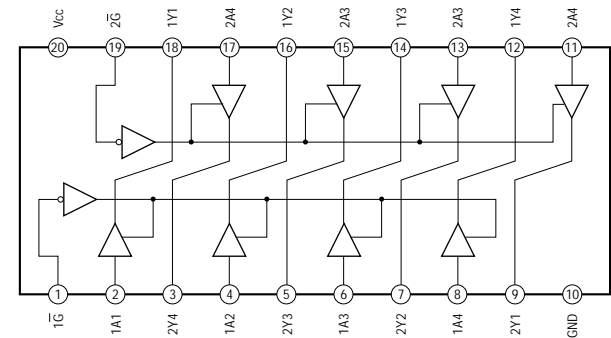
LTC490CS8 (IC13)



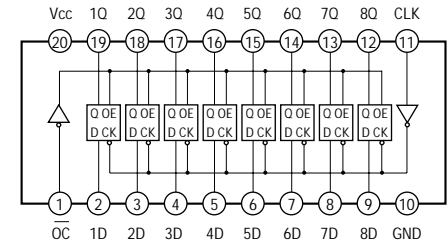
TC74VHC138F (EL) (IC3)

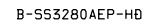
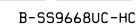


TC74VHC244F (EL) (IC12)

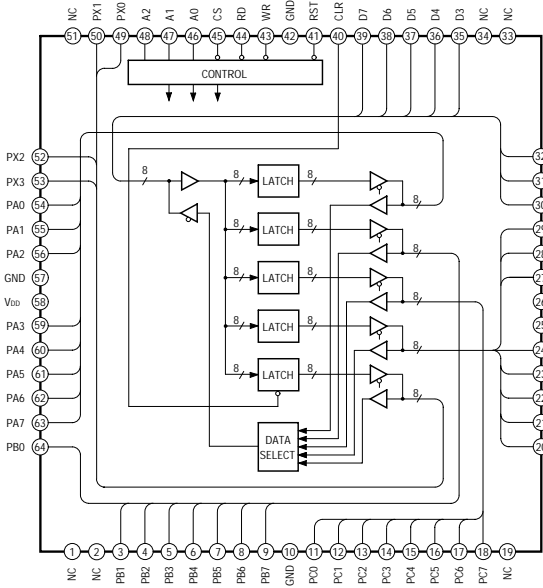


TC74VHC574F (EL) (IC11)

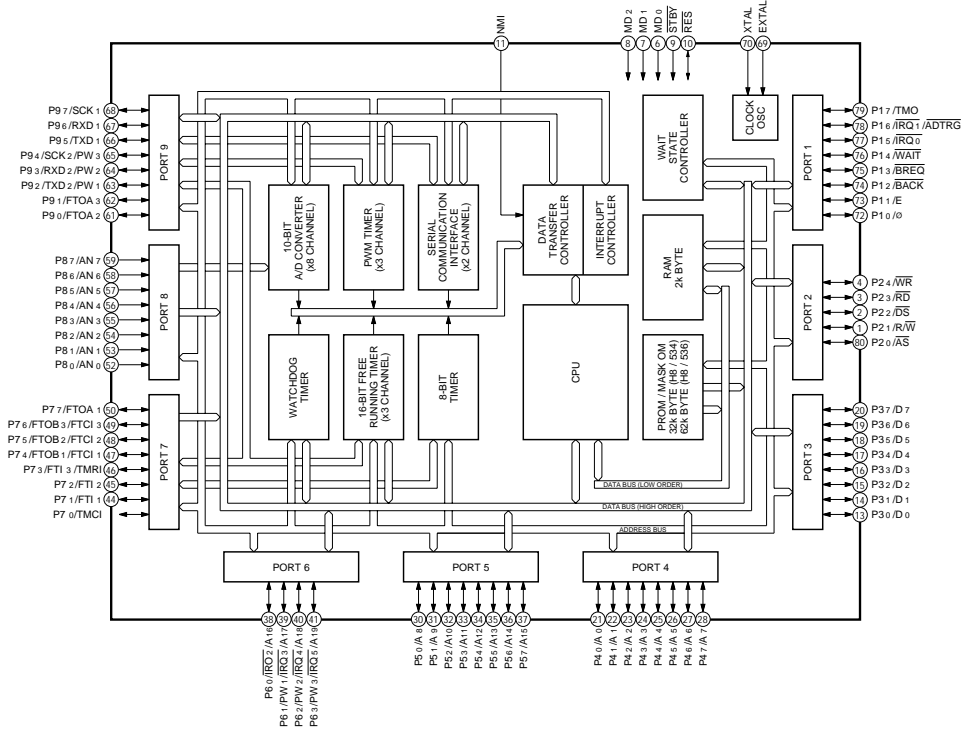




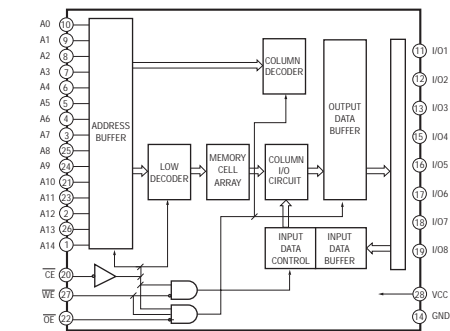
CXD1095BQ (IC112)



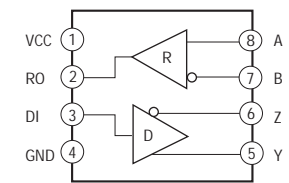
HD6435368AX06M (IC106)



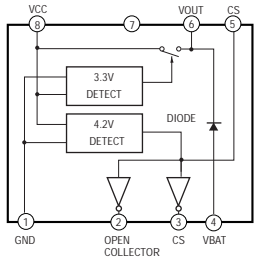
LC35256DM-70-TLM (IC111)



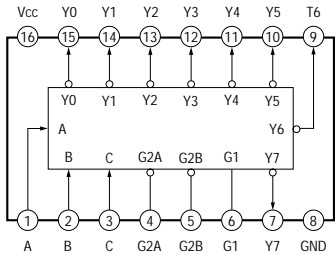
MAX490ECSA (IC113)



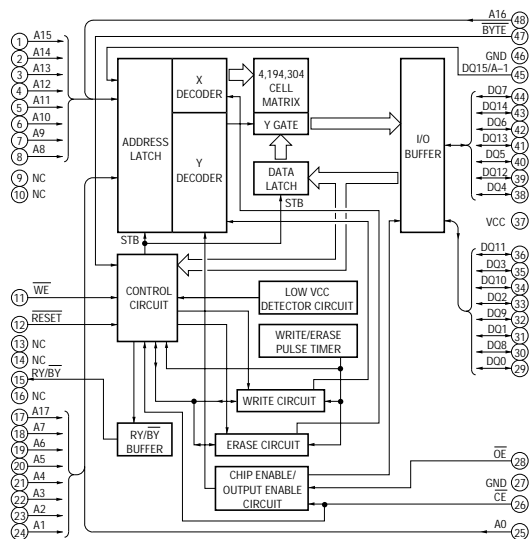
MM102BFB (IC110)



TC74VHC138F (FL) (IC109)



MBM29F400BC-90PF (IC108)



MA BOARD

[MA BOARD]

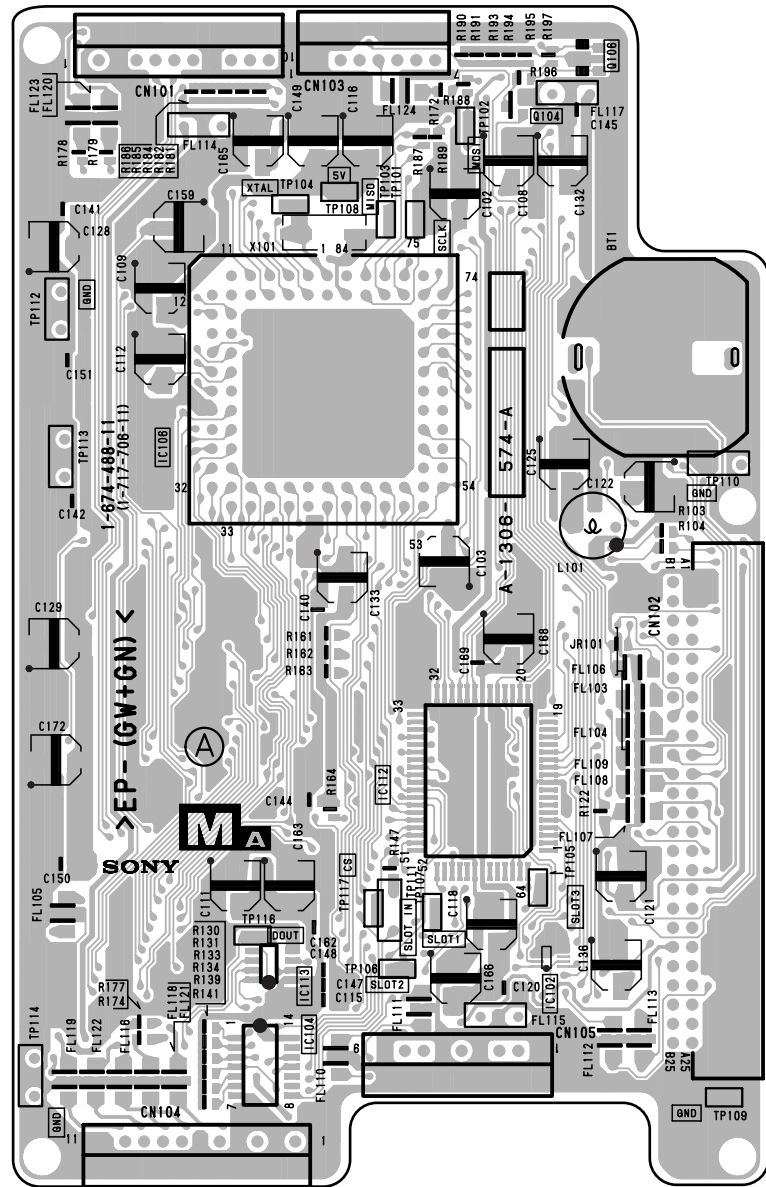
* : B SIDE

D101 C-4
D102 C-4
D103 * B-4
D104 * B-4
D105 * A-5
D106 * A-5
D107 * A-5
D108 * A-5
D109 C-4

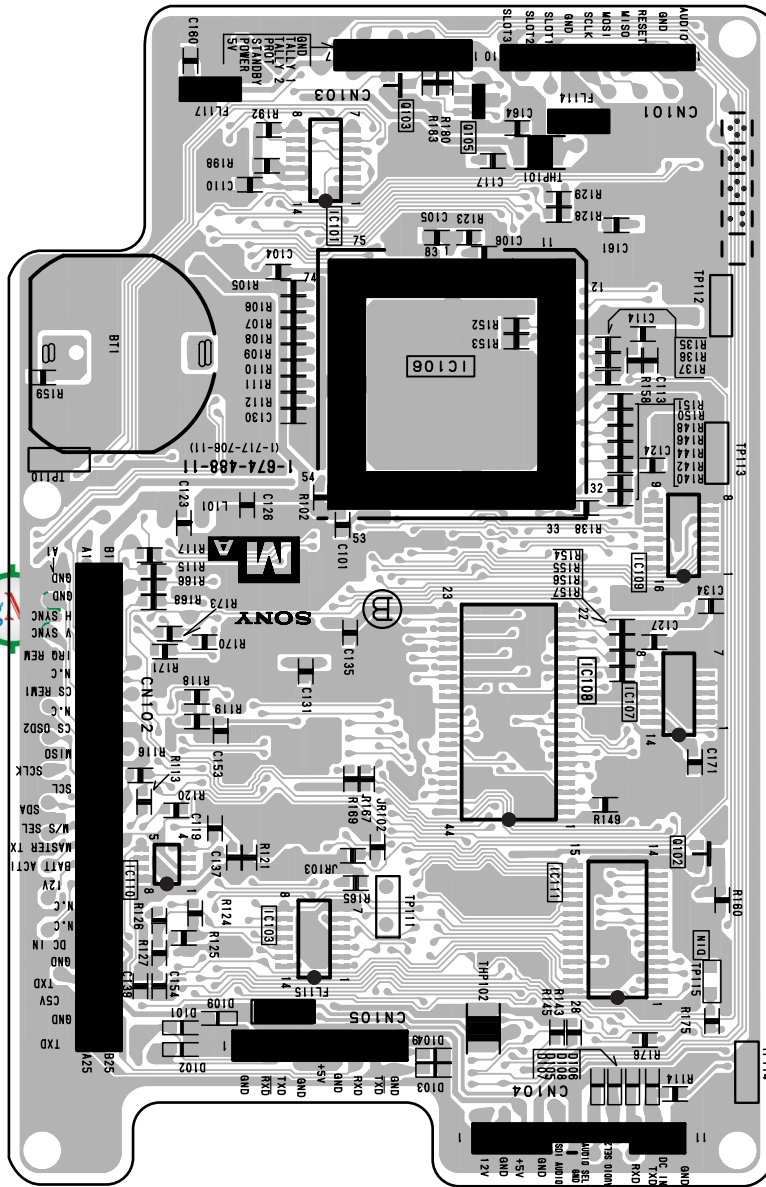
IC101 * B-1
IC102 C-4
IC103 * B-4
IC104 * A-4
IC106 B-2
IC107 * A-3
IC108 * A-3
IC109 * A-3
IC110 * C-3
IC111 * A-4
IC112 B-3
IC113 A-4

Q102 * A-4
Q103 * B-1
Q104 C-1
Q105 * B-1
Q106 C-1

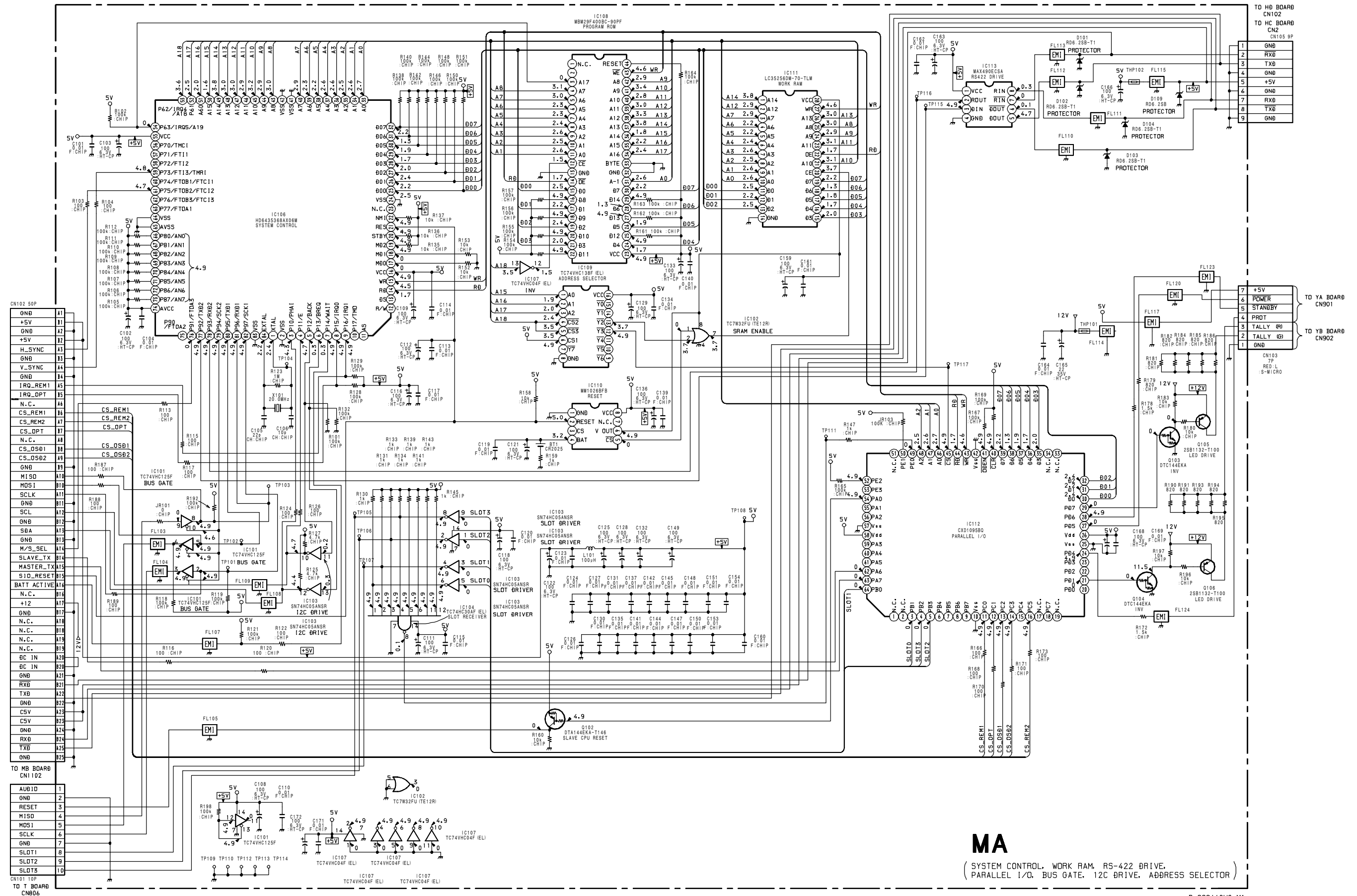
TP101 B-1
TP102 B-1
TP103 B-1
TP104 B-1
TP105 B-4
TP106 B-4
TP107 B-4
TP108 B-1
TP109 C-5
TP110 C-2
TP111 B-4
TP112 A-2
TP113 A-2
TP114 A-5
TP115 * A-5
TP116 A-4
TP117 B-4



MA -A SIDE-
SUFFIX: -11



MA -B SIDE-
SUFFIX: -11



MB BOARD

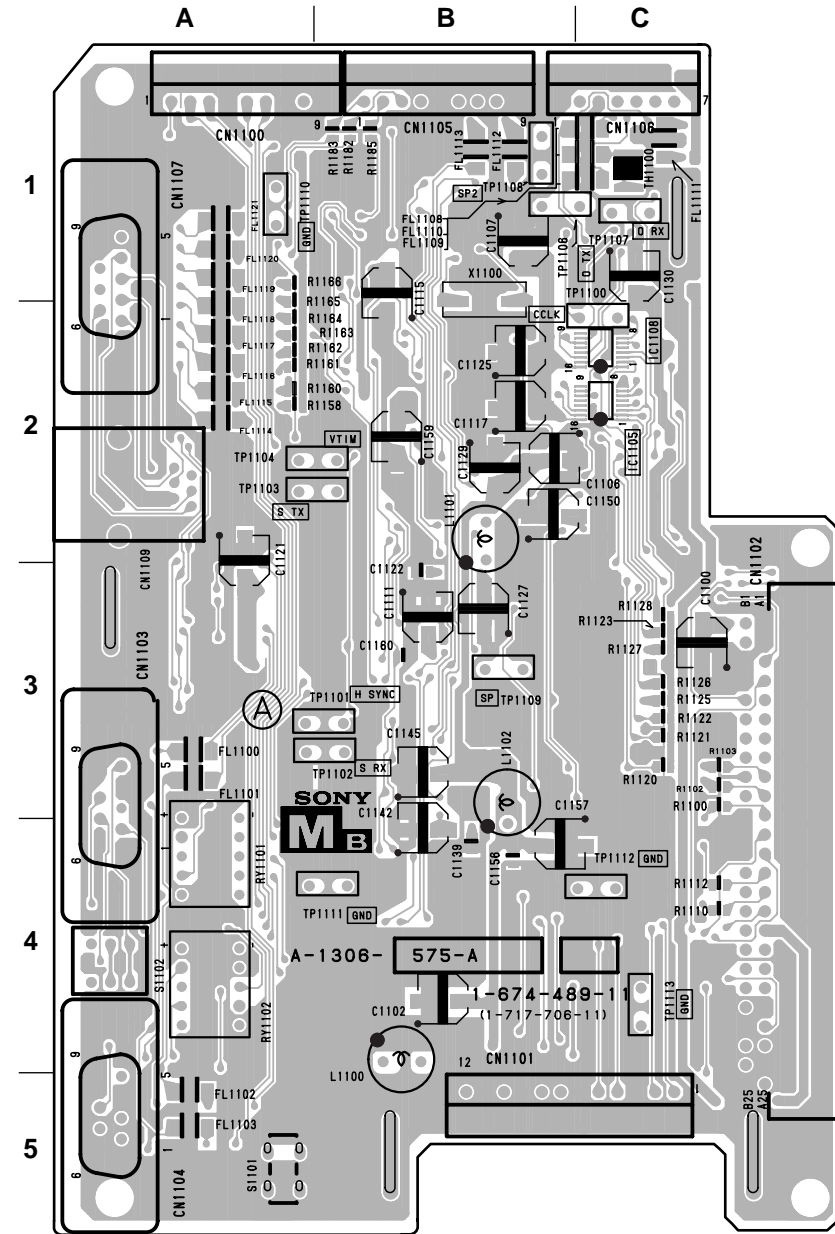
* : B SIDE

51100 *

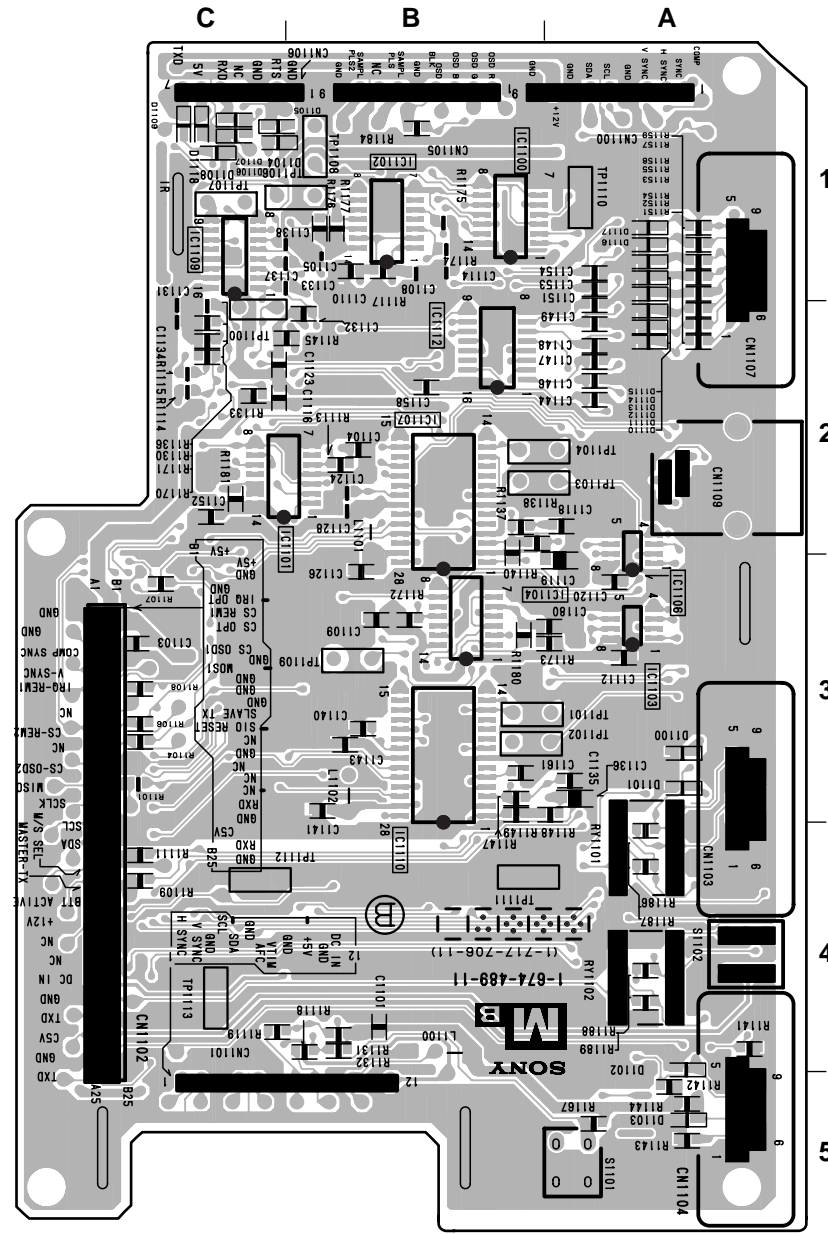
D1100	* A-3
D1101	* A-3
D1102	* A-4
D1103	* A-5
D1104	* C-1
D1105	* C-1
D1106	* C-1
D1107	* C-1
D1108	* C-1
D1109	* C-1
D1110	* A-2
D1111	* A-2
D1112	* A-2
D1113	* A-2
D1114	* A-2
D1115	* A-2
D1116	* A-1
D1117	* A-1
D1118	* C-1

IC1100	* B-1
IC1101	* A-1
IC1102	* B-1
IC1103	* A-3
IC1104	* B-3
IC1105	C-2
IC1106	* A-2
IC1107	* B-2
IC1108	C-2
IC1109	* C-1
IC1110	* B-3
IC1112	* B-2

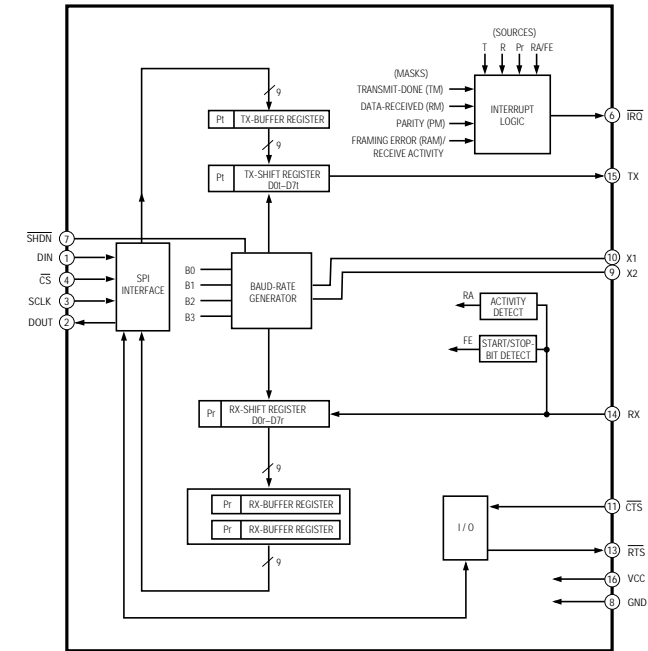
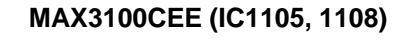
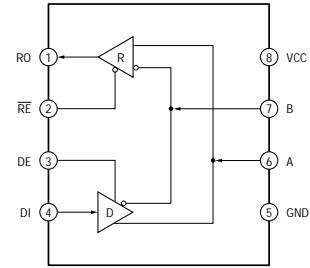
TP1100	C-2
TP1101	B-3
TP1102	B-3
TP1103	B-2
TP1104	B-2
TP1106	B-1
TP1107	C-1
TP1108	C-2
TP1109	B-3
TP1110	C-2
TP1111	B-4
TP1112	C-4
TP1113	C-4



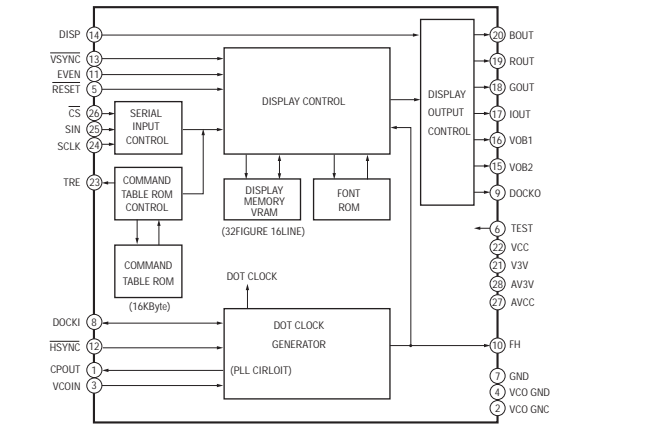
MB –A SIDE–
SUFFIX: -11



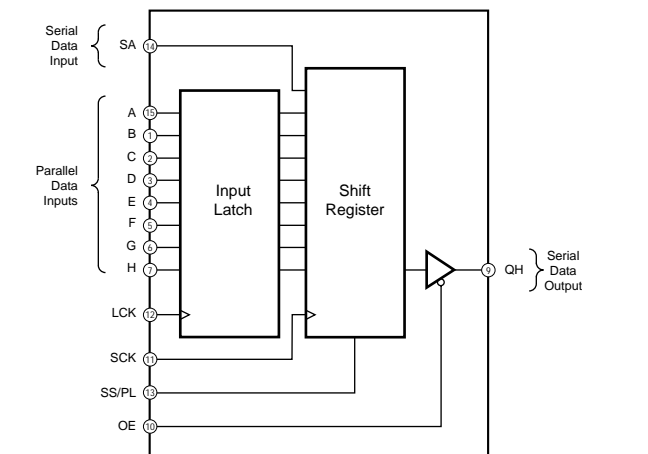
MB -B SIDE-
SUFFIX: -11

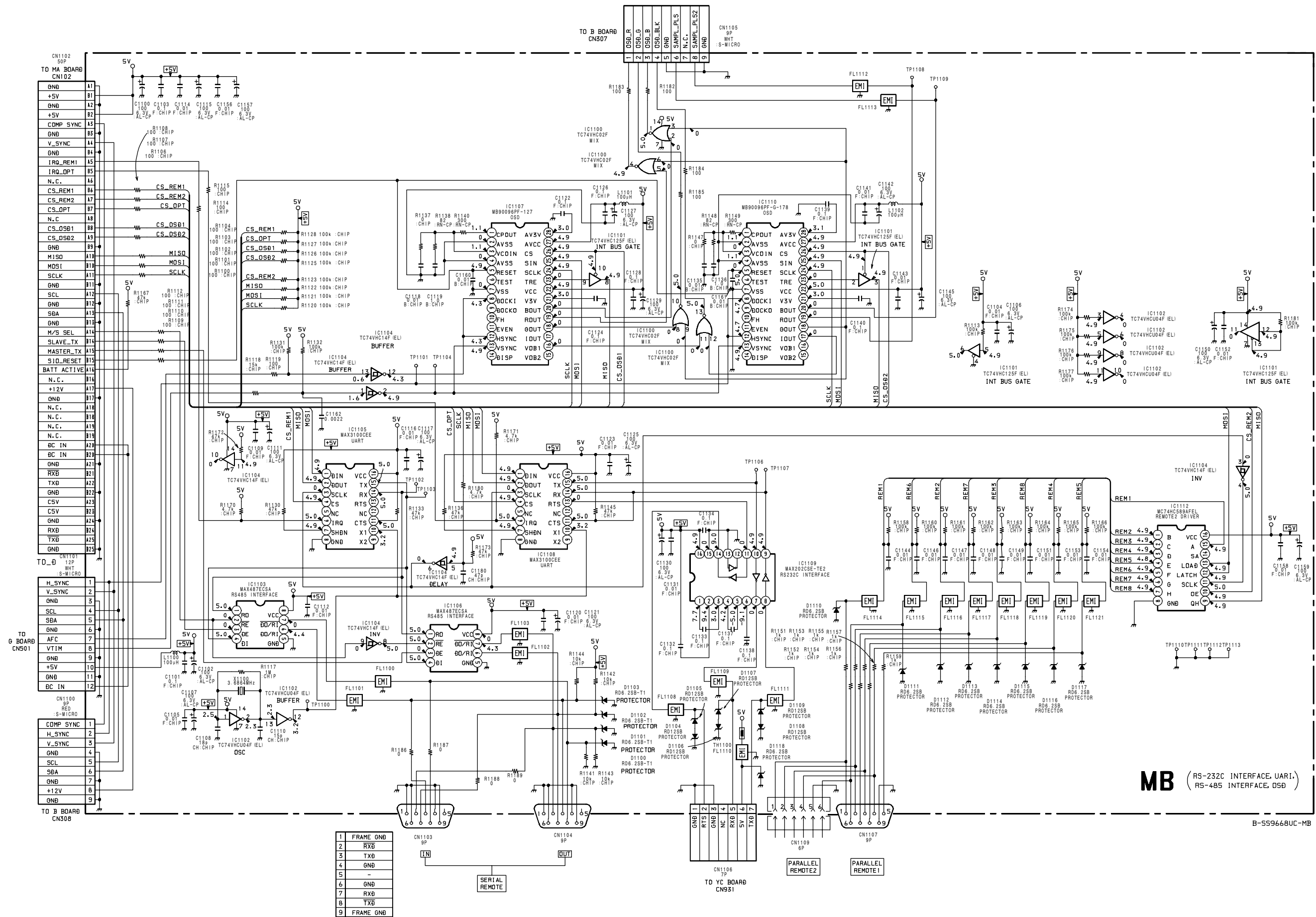


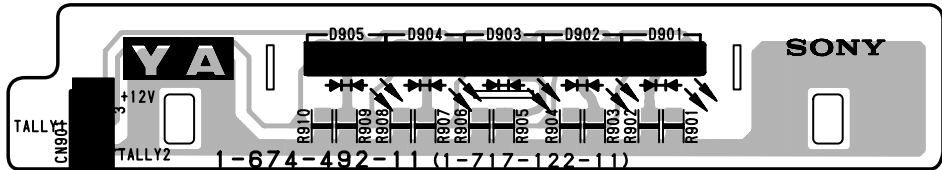
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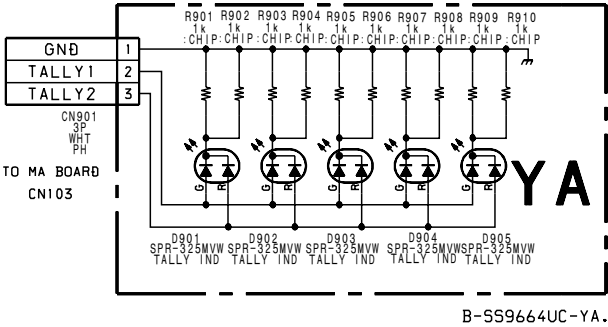
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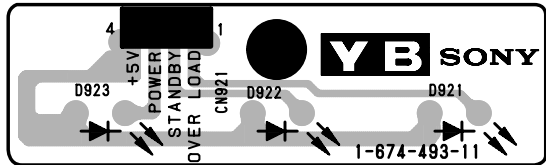




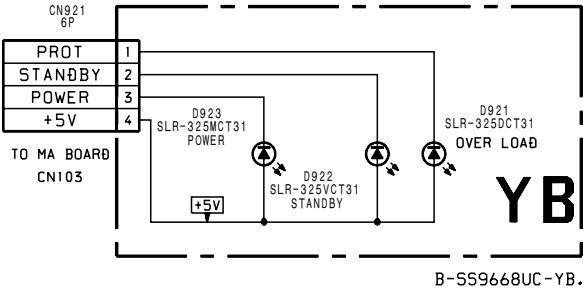
YA -B SIDE-
SUFFIX: -11



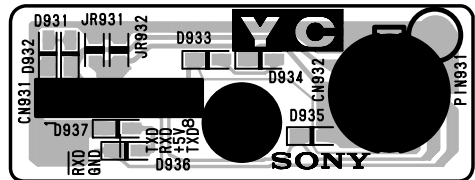
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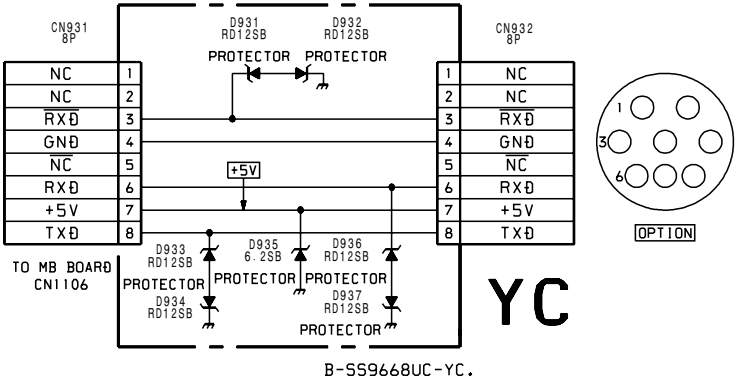
YB -B SIDE-
SUFFIX: -11



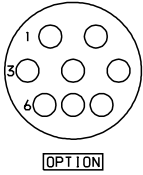
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YC -B SIDE-
SUFFIX: -11



B-SS9668UC-YC.



OPTION

1

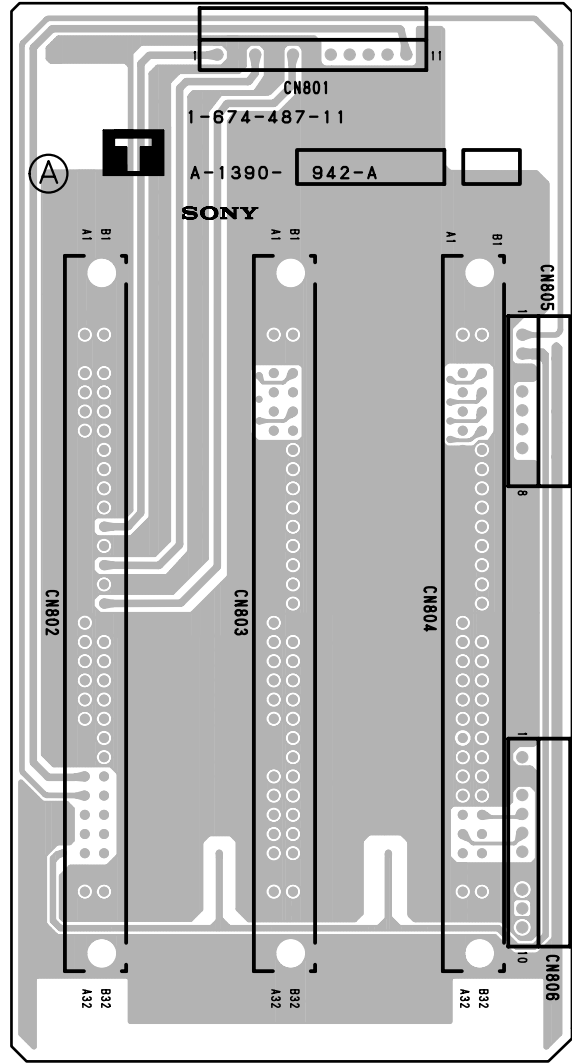
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3

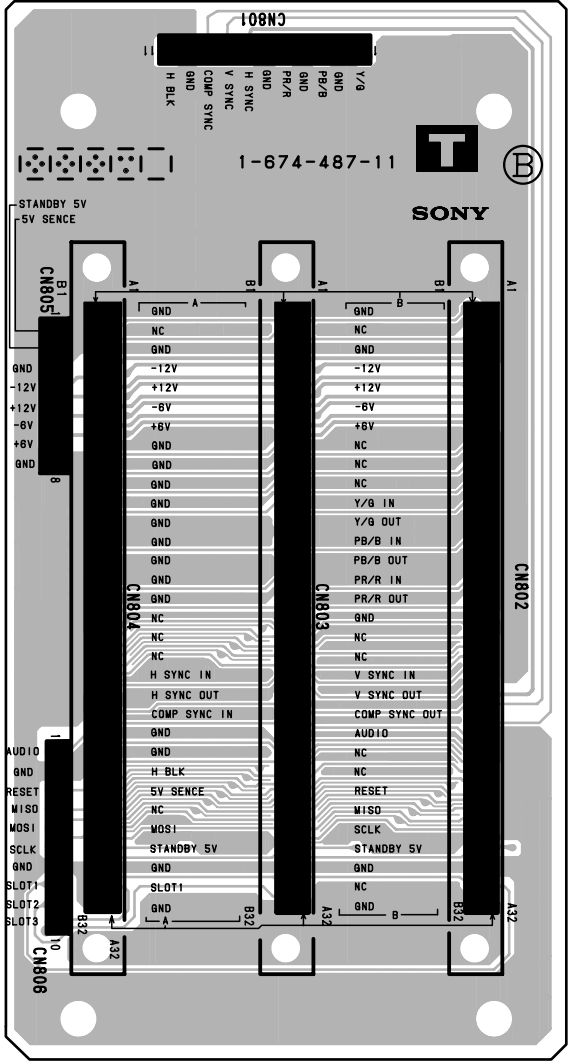
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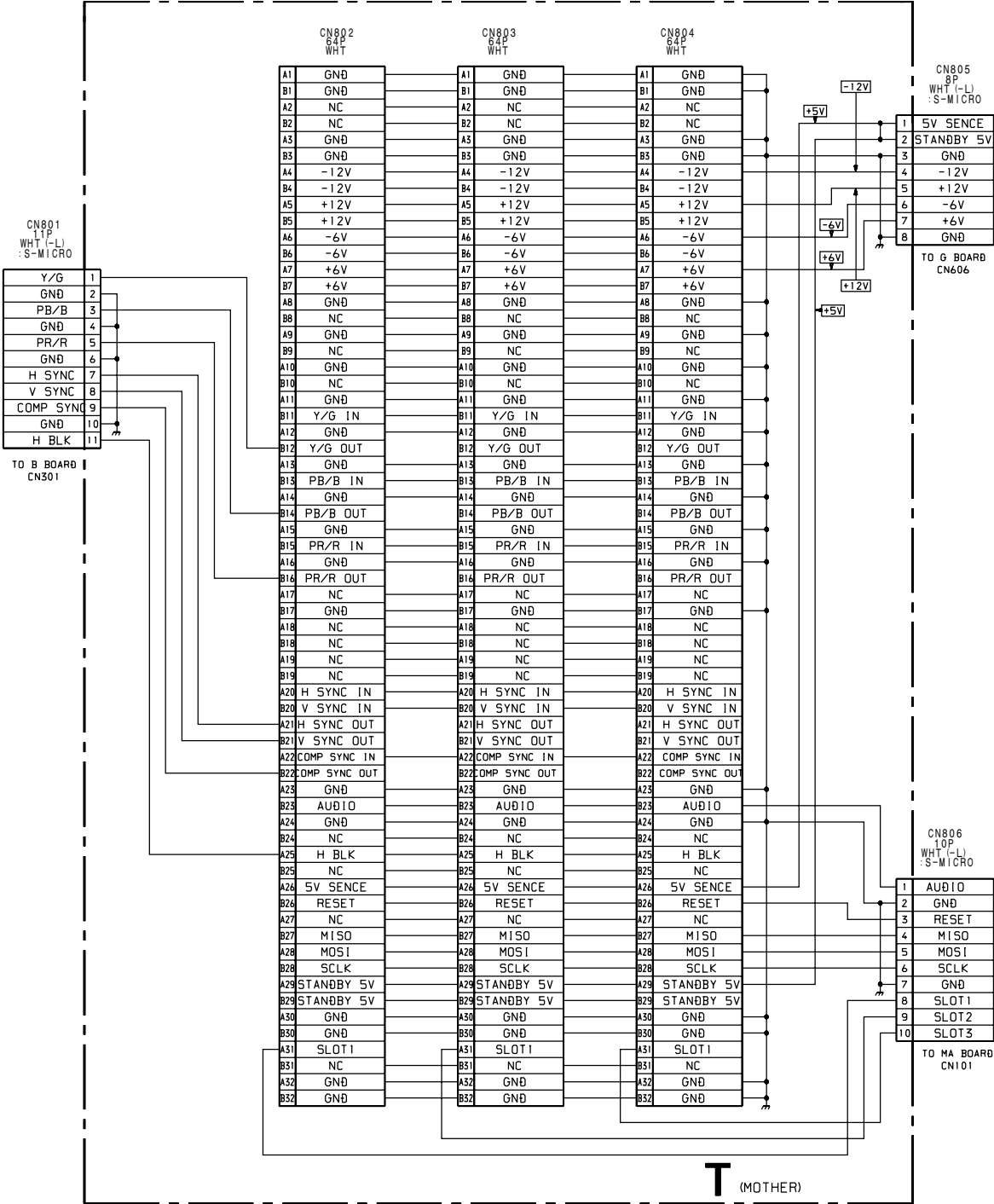
T BOARD



T -A SIDE-
SUFFIX: -11



T -B SIDE-
SUFFIX: -11



B-559668UC-T.

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